A STUDY TO ASSESS THE EFFECTIVENESS OF HOME MADE HERBAL PLASTER APPLICATION ON KNEE JOINT PAIN AMONG ELDERLY (ABOVE 60 YEARS) IN SELECTED OLD AGE HOMES, CHENNAI

By

S.RAJESWARI

A dissertation submitted to

THE TAMILNADU DR.MGR MEDICAL UNIVERSITY, CHENNAI.

In the partial fulfillment of the requirement for the award of the degree of

MASTER OF SCIENCE IN MEDICAL SURGICAL NURSING

OCTOBER 2017

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ACKNOWLEDGEMENT

I take immense pleasure to express my gratitude to Lord almighty for given me strength, direction, shield and blessing at each and every step throughout the endeavor of this study.

I express my earnest gratitude to the MANAGEMENT, MOHAMMED SATHAK A.J .COLLEGE OF NURSING.

I have an inclination to thank **Dr.Prof.Mrs.Rama Sambasivan, M.Sc., (N)., Ph.D., (N).,** Principal, Mohamed Sathak A.J.College of Nursing for her interest and excellent guidance, creative suggestions, timely help, constant encouragement and support., Being guided by her has been a great honour and privilege.

I wish to extend my immense thanks to **Prof. Mrs. I. Safreena, M.Sc., (N).,** Vice Principal, Mohammed Sathak A.J. College for the Suggestions, Support and motivation which enlightened my way to complete the work systematically.

I am also grateful and obligated to **Mrs.Stella Mary, M.Sc., (N).,** Head of the Department, Medical Nursing, Mohamed Sathak A.J. College of Nursing, for her profound help moral support, provoking stimulation, elegant experience and critical suggestions in shaping my study.

My heartfelt thanks to **Dr.K.V.Jeyaprakash, M.S. Ortho,** Consultant Orthopedic Surgeon, Annai Arul Hospital for his expert guidance in modification of tool and, Dr. M.D Vijayakumar, M.S(Ayu), Sanjeevi`s ayush hospital for structuring the interventional procedure of this study

I am extremely thankful to the Managing Trustees of Amma - Appa Old-age Care and Navajeevan Free Oldage Home for given me the permission to conduct the study.

I also express my sincere thanks to **Prof.Mrs. Prathiba,** Associate Professor, HOD Medical Surgical Nursing, Vekateswara Nursing College, **Prof.Mrs.A.Rathiga,** HOD Medical Surgical Nursing, Chettinad College of Nursing for her expert opinion on the tool.

I extend my sincere thanks to **N.K Balasubramanian,** retired professor, Kerala University for his guidance in statistical analysis of data.

My sincere thanks to **Mrs.Josephin.N. B.Ed., M.Phil.,** (Tamil Lit.) for her guidance in Tamil Editing and **Mrs.Meenakshi, M.A. M.Ed.,** (English Lit.) for editing the written text.

I also express my thanks to all the **Faculty Members** of Mohammed Sathak A.J College of Nursing for the valuable suggestion and encouragement in conducting this study.

I thank all **Non-Teaching Staff** members of Mohammed Sathak A.J. College of Nursing for their timely help and support.

I am very grateful and thankful to my parents, husband, son and friends for their understanding and continuous support throughout the study.

My sincere thanks to the participants who made this study possible and successful. I thank each and everyone who have been a part for the successful completion of this study.

ABSTRACT

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage. Aging is a natural phenomenon that is experienced by all living organisms. Healthy geriatric population makes major contribution to the health and development of the country. Most of geriatric population is troubled by chronic knee pain that has major effect on their quality of life. It accounts for approximately one-third of musculoskeletal problems in this population. High prevalence of knee joint pain is reported by various authors i.e.46.7% among 60 years and above population and 40.7%among 65 years and above. Under treated and poorly managed knee joint pain can affect their physical, psychological, social and emotional life . Complementary medicines are used in a variety of ways; some people use them instead of conventional treatments, some alongside. Some people use them regularly and some intermittently Evidence suggests that users of complementary medicine feel non-toxic, holistic approaches to health. Herbal based home remedies proven to be effective in joint pain and swelling. Mustard based poultice is one of the best home remedy when applied with basil leaf powder in a form of plaster. Mustard acting as a counter irritant and basil being the best anti-inflammatory will be a cost effect also without any untoward reactions.

Objectives

1. To assess the pretest and posttest level of knee joint pain among experimental group and control group 2. To determine the effectiveness of homemade herbal plaster application on knee joint pain among experimental group 3. To compare the posttest level of knee joint pain among experimental group and control group 4. To associate the level of knee joint pain with the selected demographic variables.

Methodology

An experimental study was conducted to assess the effectiveness of homemade herbal plaster application on knee joint pain among elderly (above 60 years)**.** Quantitative research approach, Quasi experimental research design was used on two selected groups conducting pre-test and post-test studies. Study was carried out in Amma–Appa old age care Mudichur, as Experimental group and Navajeevan old age home New Perungalathur, as control group in Chennai. The data was collected using self-structured questionnaire and WOMAC index with the help of numeric rating scale for both study and control group and analyzed using mean

Results

In the experimental group, the pretest level of knee joint pain median was 50.000with sum of 1448.000, the posttest level of knee joint pain median was 21.000 with the sum of 685. 000.The calculated paired ‘t’ value was 5.500 was statistically significant at $p<0.01$. In the post test comparison of experimental group mean was 22.833 with S. D 14.809. In control group mean was 44.1000 with S. D 17.674. The calculated ‘t’ value-5.052 found to be statistically significant at $p<0.01$.

Conclusion

Thereby the investigator concludes that the application of home made herbal plaster is effective on reducing the level of knee joint pain among elderly (above 60 years). Hence, reduction of knee joint pain increases the functional ability of elders which lead them a better quality of life.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

APPENDICES

S.NO.	TITLE	APPENDIX
1.	RESEARCH QUESTIONNAIRE	I
	A) ENGLISH	
	B) TAMIL	
2.	PROCEDURE – HOME MADE HERBAL PLASTER APPLICATION	II
3.	CONTENT VALIDITY CERTIFICATE	III
4.	EXPERT CERTIFICATE FOR HOME MADE HERBAL PLASTER APPALICATION	IV
5.	CERTIFICATE FOR LANGUAGE PROFICIENCY	V
6.	PERMISSION LETTERS FROM OLDAGE HOME	VI
7.	PHOTOGRAPH	VII

CHAPTER – I

INTRODUCTION

"Being able to walk pain-free is a blessing. Being able to walk without showing the pain is a skill – Kylie Mc Pherson

Pain is the distressing feeling often caused by intense or damaging stimuli. Because it is a complex subjective phenomenon, defining pain has been a challenge. The international association for the study of pain, defines pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage. In medical diagnosis, pain is regarded as a symptom of an underlying condition.

The world's older population continues to grow at an unprecedented rate. Today, 8.5 percent of people worldwide (617 million) are aged 65 and over. According to the report in "An Aging World: 2015 (link is external)", this percentage is projected to jump to nearly 17 percent of the world's population by 2050 (1.6 billion).

The share of India's population ages 60 and older is projected to climb from 8 percent in 2010 to 19 percent in 2050, according to the United Nations Population Division (UN 2011). By mid-century, India's 60 and older population is expected to encompass 323 million people, a number greater than the total U.S. population in 2012. This profound shift in the share of older Indians—taking place in the context of changing family relationships and severely limited old-age income support—brings with it a variety of social, economic, and health care policy challenges.

Aging is a natural phenomenon that is experienced by all living organisms. Healthy geriatric population makes major contribution to the health and development of the country. Live well, eat well and be positive

Those who survived to old age should be well informed about the ways to prevent diseases and to maintain the quality of life to extend their survival. Various diseases that commonly affect geriatric population are musculoskeletal pain, heart diseases, and hypertension, diabetes, asthma and skin diseases

Musculoskeletal pain is a major health problem among geriatric population according to the surveys undertaken in both developed and developing countries ,this is an epidemic which is destined to grow .Most of geriatric population is troubled by chronic knee pain that has major effect on their quality of life. It accounts for approximately one-third of musculoskeletal problems in this population .High prevalence of knee joint pain is reported by various authors i.e.46.7% among 60 years and above population and 40.7%among 65 years and above .Under treated and poorly managed knee joint pain can affect their physical, psychological ,social and emotional life .

Marita Cross, Emma Smith (2010) the global burden of hip and knee osteoarthritis: estimates from the Global Burden of Disease 2010 study globally, of the 291 conditions, hip and knee osteoarthritis was ranked as the 11th highest contributor to global disability.

Frank R. Noyes (1997) explained articular cartilage is a firm rubbery protein material covering the end of a bone. It acts as a cushion or shock absorber between the bones. When articular cartilage breaks down, this cushion is lost, and the bones will grind together. This causes the development of symptoms such as pain, swelling, bone spur formation and decreased motion. Osteoarthritis commonly affects weight bearing joints such as the knee, but it may affect any joint. Osteoarthritis of the knee (OA Knee) is one of the five leading causes of disability among elderly men and women.

Felson DT, Naimark A, Anderson J (1993) stated that the risk for disability from OA Knee is as great as that from cardiovascular disease. Here are some frequently asked questions about OA Knee. OA Knee usually occurs in knees that have experienced trauma, infection or injury. A smooth, slippery, fibrous connective tissue called articular cartilage acts as a protective cushion between bones. Arthritis develops as the cartilage begins to deteriorate or is lost. As the articular cartilage is lost, the joint space between the bones narrows. This is an early symptom of OA Knee and is easily seen on X-rays. As the disease progresses, the cartilage thin, becoming grooved and fragmented. The surrounding bones react by becoming thicker. They start to grow outward and form spurs. The synovium (a membrane that produces a thick fluid that helps nourish the cartilage and keep it slippery) becomes inflamed and thickened. It may produce extra fluid, often known as "water on the knee," that causes additional swelling.

Over a period of years, the joint slowly changes. In severe cases, when the articular cartilage is gone, the thickened bone ends rub against each other and wear away. This results in a deformity of the joint. Normal activity becomes painful and difficult. Several factors may increase the risk of developing osteoarthritis of the knee like weight, gender, trauma and other illness .

Times of india.com (2009) the high incidence of knee joint pain is prevalent among post-menopausal women as estrogen levels go down, they lose that protection and may have a higher risk of developing osteoarthritis and joint pains even if they are in hormone replacement therapy (HRT)

These real-life consequences of knee joint pain need to be given adequate attention in the home care settings. So, there is a need to have home based management. Home remedy use is an often overlooked

component of health self–management, with a rich tradition, particularly for who have limited access to medical care or discrimination by health care system.

Haug`s** model of self-care and **Leventhal`s (2009) common-sense model of self-care regulation (CSM), predicts that older adults will use a variety of forms of self-care to alleviate commonly experienced symptoms .Home remedies are substances used to treat common symptoms and ailments .They can be divided in to food products and readily available non –food household products common among people in the world.

BACK GROUND OF THE STUDY

Complementary and alternative medicines are a group of diverse medical and healthcare systems, practices and products that aren't presently considered to be part of conventional medicine. Alternative therapies for knee and other joint pains include such as acupuncture, copper bracelets, glucosamine, chondroitin supplements, naturopathy, yoga, chiropractic, homeopathy, hypnotherapy and medical herbalism.

Complementary medicines are used in a variety of ways; some people use them instead of conventional treatments, some alongside. Some people use them regularly and some intermittently Evidence suggests that users of complementary medicine feel non-toxic, holistic approaches to health. More over they're 'natural', and harmless with less side effects, and is locally available in living area. Many people with arthritis look to these alternative therapies to help relieve the pain, stiffness, stress, anxiety, and depression that accompany their disease. The Arthritis Foundation reports that two-thirds of people with joint pain have tried alternative therapies

Many researchers have studied and recommended the application of mustard based herbal plaster for centuries mustard plasters were tried and true home remedy for the flu, and joint ailments. It was used regularly up

until the not too distant past since this poultice was thought to sweat out all the “ills” the body held. Allyl isothiocyanate is an active ingredient found in the mustard plaster that is, absorbed through the skin as a transdermal drug responsible for the pain relief on joints. Allyl isothiocyanate, which is the organ sulfur compound, is a counterirritant. meaning that it stimulates nerve endings in the skin and thereby distracts the body from deeper seated pain.

Breana Noble (2004) a treatment from the Indian ayurvedic tradition, holy basil (Ocimum basilicum) also known as tulsi, meaning “The Incomparable One”.

It is one of the sacred herbs traditionally used in the India and frequently grown at home. As adaptogen, it helps the body to work at its prime level even while under large amounts of stress by regulating the creation of stress hormone including cortical and adrenaline, the magazine explained. It contains high amount of anti-inflammatory elements and antioxidants, helpful in fighting joint pain, natural news reported. These properties come from eugenol in the oil found from the plant`s leaves, according to Healthy newsage.com

Poultices, compress and plasters are wonderful way of applying an herbal treatment externally to a specific area of the body. They are very like each other, and are both easy and effective in treating many common household ailments. Plasters are very powerful and it should be applied in thin layers to protect the skin and the area monitored to avoid any skin reactions to strong herb (like mustard, cayenne, garlic and ginger).

Hippocrates has prescribed mustard as a medicine for pulmonary illness and rheumatism. The use of mustard plant for medicinal purposes goes back to the several millenniums. Mustard has been used as food and medicine in India.

Mustard was used in Europe for centuries for both medicinal and culinary purposes and was brought to this country by European settlers, mustard seeds were once used in the U.S pharmacopeia list of approved medication and were included in baths, plaster and massage oils. Mustard preparation is widely available commercially and mustard powder widely used by U.S army in management of pain.

Debra Rose Wilson (2010), treatment for arthritis aims to improve joint movement and eliminate pain and swelling. Doctor will likely recommend a combination of treatments that include different medications and physical therapy. Surgery is typically used as a last resort.

Nicola Conville (2002), said that several varieties of fresh basil have been found to be as strong as anti-inflammatory medication when it comes to easing the swelling and pain of arthritis, according to a new study conducted in India. Researchers found that when taken orally, concentrated extracts from the two types of basil - Ocimum americanum and Ocimum tenuiflorum - reduced joint swelling up to 73 per cent in 24 hours. “When assessed the anti-inflammatory capacity of both plants it was found that the actions were found like diclofenac, an anti-inflammatory drug that is used in the treatment of arthritis," says the lead researcher Vaibh Shinde. "Research indicates that eugenol, the oil that gives basil its distinctive aroma, is the active molecule responsible for the anti-inflammatory effect." These types of basils are grown mainly in India and South-East Asia

Since herbal based home remedies proven to be effective in joint pain and swelling. Mustard based poultice is one of the best home remedy when applied with basil leaf powder in a form of plaster. Mustard acting as a counter irritant and basil being the best anti-inflammatory will be a cost effect also without any untoward reactions.

NEED FOR THE STUDY

WHO bulletin, Worldwide estimates provided were that 9.6 % of men and 18% of women aged above 60 years had symptomatic osteoarthritis. 80% of those with osteoarthritis had limitations in movement. Also, it was observed that 25% could not perform their major daily activities due to pain. Radiographic studies conducted in U.S and European populations showed that people aged 45 years above were facing the risk of osteoarthritis of knee It could be known from the survey that studies on tibia femoral joint, osteoarthritis of the patella femoral joint which have major impacts were limited. The burden will be greatest in the developing countries, where the life expectancy is increasing .Access to arthroplasty and joint replacement is not readily available as per the fact sheet published in 2009 in UK , in every 5 adults are suffering from arthritis 4.4 million in UK have X ray evidence of osteoarthritis in hands 5,50,000 have complaint in knees and 2,10,000 have complaint at hip, prevalence of arthritis is higher in females (227/1000),it is twice than of men (113/1000). In Europe 100 million people (14.5% of population) reports arthritis related disability (2010).In Asia 6 million Japanese (5% of population) have osteoarthritis, the incidence rate of arthritis is 0.42%

In India, osteoarthritis is the second most common rheumatologic problem and it is the most frequent joint disease with a prevalence of 22% to 39%. OA is more common in women than men. Nearly 45% of women over the age of 65 years have symptoms while 70%of those over 65 years show radiological evidence of OA in India .The prevalence of OA is increasing due to population aging and an increase in related factors such as obesity, sedentary life style .The physical disability arising from pain and loss of functional capacity reduces quality of life and increase the risk of further morbidity. As highly effective medicinal management not available ,however oral and topical NSAIDS and corticosteroids used widely for

symptomatic relief which is again with the concern of GI ,cardiovascular and nephrological adverse effects with the long term use.

The available surgical procedures like Arthrodesis in which two damaged bones are joined to prevent the joint from bending, Arthroscopy, the loose cartilage and bone fragments removed to make the rough joint surface smooth, and joint replacement surgeries in ,replacing the ends of bones in a damaged joint which creates new joint surfaces. According to advanced health center 2009 of university of Delaware (UD) indicates that patient who has undergone total knee arthroplasty (TKA) need to learn the proper technique of moving from sitting to standing position, an additional physiotherapy and activity limitation.

CIMS (2011) the main aim of arthritis management is pain relief among joint mobility. Pharmacological management of pain using acetaminophen and NSAIDS causes side effects including gastrointestinal disorders, hepatic and renal damage serious GI complications such as bleeding, ulceration and perforation can occur with or without warning in people who use NSAIDS ,every day it is estimated that more than 100,000 Americans are hospitalized each year below 15,000 and 20,000 American die each year from ulcers and GI bleeding linked to NSAIDS use of particular concern are patients with arthritis. More than 14 million such patient consumes NSAIDS regularly up to 60% with have GI side effects related to these drugs and more than 10% will stop taking recommended medication because of trouble some GI symptoms (American college of gastroenterology 2013).

Holistic Online.com (2011) Mustard is well known for its counter irritant, anti-congest ant action, practices have proven that increased circulation and reduces pain relief at application site .Mrs. Mary betts Sinclair has conducted clinical trial successfully in reducing joint pain applying mustard plaster over the frozen joints.

Cims (2010) found even though arthritis is distressing disease, we can manage the patient condition and help them to lead a full and active life. There are many measures used to relief the symptoms such as analgesic to decrease the pain, nonsteroidal anti-inflammatory drugs to relief pain and inflammation. But the side effects caused by these drugs include cause gastrointestinal and renal complications. In these context, natural remedies for pain relief that is free of any side effects will be more help full for clients.

Tipnut.com (2009) for centuries mustard plasters were tried and true home remedy for the flu, and joint ailments. It was used regularly up until the not too distant past since this poultice was thought to sweat out all the "ills" the body held. Allyl isothiocyanate (AITC) is an active ingredient found in the mustard plaster that is responsible for arthritic pain relief along with other forms of arthritic joint pain. Allyl isothiocyanate (AITC), which is the organosulfur compound, is a counterirritant.

Small, Ernest ***(2009)*** Herbal plaster is a poultice of mustard seed powder and basil leaf powder spread inside a protective dressing and applied to the body to stimulate healing. It can be used to warm muscle tissues and for chronic aches and pains.[1] It was once part of conventional medical treatment] and available in prepared versions in pharmacies. It fell from favor in the 20th century and is now only used as a home remedy

There are many solutions for overcoming arthritis joint pain, and one of them is a mustard based herbal plaster. A herbal plaster is a poultice that is made up of dry mustard seed powder and dry basil leaf powder which is kept inside a protective dressing. It is applied to the painful areas for stimulating healing. The plaster can be used for warming muscle tissues and reducing inflammations, chronic aches and pains.

Web med (2010) Mustard is an easily available and comparatively cheap material .it causes no side effects when compared with any other medications. There is no need for any activity restriction or any dietary restriction for clients using mustard plaster. Moreover, it can be prepared and administered at home that enables client self-care and control over his or her devastating joint pain. Application of heat relieves joint discomfort. Mustard plaster application works primarily through chemical action of mustard and secondarily by the action of heat, it reduces muscle stiffness.

Gernot Katzer in his special article Basil is an important medicinal plant in various traditional and folk systems of medicines, such as those in Southeast Asia and India. Holy basil is usually referred to as **tulsi** in India and is considered a sacred herb. It's been used in over 300 different Ayurvedic herbal treatments for thousands of years, including tinctures, teas, ointments and tonics. Tulsi is also an important symbol in many other Hindu religious traditions and is linked to the goddess figure;

When researchers from the Medical University of Lodz in Poland tested the antibacterial activity of basil oil against strains of E. coli and other powerful bacteria that were gathered from sick patients with infections, the results showed that basil was effective in acting against the bacteria strains and helping to inhibit their growth. (5) This has led researchers to continue to study how basil and other antibacterial oils may help fight antibiotic resistant illnesses and infections.

Rammanohar (2009) Mustard oil is applied externally in management of abdominal swelling, skin disease, epilepsy and frozen thighs. Mustard seed is included in the group of drugs that cleanse or relief the congestion in the head sinuses used for decoction enema, have anti-prurient activity and induces emesis in skin, leprosy, fever, epilepsy, rheumatoid arthritis, neurological and gynecological conditions.

Holistic.com (2009) there is a need for the improved comfort and support for arthritis client clinically trial is going on in the alternative therapies for arthritis. Current pharmacological management of osteoarthritis includes the administration of analgesics and NSAIDS but their use does not provide adequate pain relief or block the disease progression some new disease modifying agents, especially the anti TNF and anti IL-1 agents have shown some promise but they are not effective universally and possess several side effects such as life-threatening infections and malignancies which limit their use in many populations.

Arthritis herbal medicine (2009) Mustard piaster is a popular counter irritant treatment for arthritis the substance in mustard is Allyl isothiocyanate it has antifungal and anti-microbial activity isothiocyanates can inhibit the carcinogenesis in breast, colon and lung **(journal of traditional knowledge 2009).**

Herbal extract plus.com (2009) Mustard, naturally available seed is powdered and made as the plaster by mixing with wheat flour and tepid water and applied over painful joint, relieves pain well .It is the counter irritant and causes no side effects. Improvement were made on mustard plaster are gaining acceptance in arthritis care, now mustard plaster are available commercially.

Mrs. Mary betts Sinclair (2009) has demonstrated the clinical application of mustard plaster for joint pain and frozen shoulder in her book of hydrotherapy, she has introduced the use of mustard plaster for osteoarthritis. "The complete book of water healing" author Dian Buchman also recommended the use of mustard plaster for osteoarthritis as pain relief measures.

Hannelore.R. Levy and Dr.Reinhard R Bergel (2008), in their book spa encyclopedia has mentioned about the use of mustard in relieving pain .Due to its counteraction, wide presence, easy availability, affordability and safety, mustard is best choice. Action of mustard is counter irritant that is distracts the nerve endings and there by helps in reduction of pain perception and transmission. In mustard plaster, action is primarily from the grounded mustard, but also due to the application of thermal heat over the plaster, both the mustard and heat improves circulation and soothes the stiffness and painful muscles and tendons. The action of mustard causes mild irritation to the skin, stimulating the circulation in affected area and relieving muscular and skeletal pain. Mustard paste with water is applied has the analgesics in the case of rheumatism, sciatica, paralysis of limbs and other muscular pains.

Research is opening up new avenues of treatment for the people with osteoarthritis and joint pain. The most obvious and loud able reason for doing clinical research is, of course to benefit the patient, the benefits should always out of risk, the current treatment modalities for arthritis pain are having more risk than benefits. In this context, there is need for safety treatments. Homemade herbal plaster offer relief to those suffering from joint pains without causing side effects. They will improve the quality of life for people with osteoarthritis and their families since this fact has to be proved and presented for the pleasure of geriatric population with knee joint pain, the study is very significant.

STATEMENT OF THE PROBLEM

A STUDY TO ASSESS THE EFFECTIVENESS OF HOMEMADE HERBAL PLASTER APPLICATION ON KNEE JOINT PAIN AMONG ELDERLY (ABOVE 60 YEARS) IN SELECTED OLD AGE HOMES, CHENNAI.

OBJECTIVES OF THE STUDY

1. To assess the pretest and posttest level of knee joint pain among experimental group and control group.
2. To determine the effectiveness of homemade herbal plaster application on knee joint pain among experimental group.
3. To compare the posttest level of knee joint pain among experimental group and control group.
4. To associate the level of knee joint pain with selected demographic variables.

OPERATIONAL DEFINITIONS

EFFECTIVENESS

In this study, effectiveness refers to the positive outcome expected by the researcher in reduction of knee joint pain after application of homemade herbal plaster among study participants as measured by adapted WOMAC Index Questionnaire with numeric rating scale.

HOME MADE HERBAL PLASTER

The plaster is prepared by mixing two table spoon of dry mustard powder, 1 table spoon of dry basil powder with four table spoon of wheat flour mixing with luke warm water. The paste is then spread over the clean cotton cloth and edges of the cloth are folded in wards to form the plaster, plaster is then applied to the painful joint and hot water bag (110-degree F) is provided on top for 20 minutes.

KNEE JOINT PAIN

In this study, it refers to the uncomfortable subjective feeling over the affected knee joint as the result of knee stress or pathological degeneration of articular cartilage in elderly as measured by adapted WOMAC index questionnaire with numeric rating scale.

ELDERLY

In this study, it relates to persons in their later life, 60 years or above.

Old AGE HOMES

It refers to a nursing home – a multi residence housing facility intended for senior citizens

HYPOTHESIS

H1: There is significant difference in the level of knee joint pain between study group and control group

H2: There is a significant difference in the level of knee joint pain after homemade herbal plaster application in experimental group

H3: There is significant difference in the level of pain between study group and control group after homemade herbal plaster application

H4: There is a significant association between knee joint pain with selected demographic variables

ASSUMPTIONS

- Pain is an individual, subjective experience that is measurable and can be effectively evaluated by individuals who are experiencing pain.
- Knee joint Pain threatens well-being and cause limitations in daily activities
- Among the counter irritant and anti-inflammatory products used for the knee joint pain relief, homemade herbal plaster is an effective agent
- Homemade herbal plaster is cost effective and has no adverse effects

DELIMITATIONS

- The study is limited to the patients who can read Tamil and English
- The sample size is limited to only 60 subjects
- The duration of the study is limited to 6 weeks

PROJECTED OUTCOME

The projected outcome of the study is that, patients with knee joint will have

- Reduction of knee joint pain
- Increased functional ability in performing activities of daily living
- Better quality of life

HUMAN RIGHTS PROTECTION

- The pilot study and the main study were conducted after getting the approval from the ethical committee.
- Permission was obtained from the management of Amma-Appa old age home, Mudichur and Navajeevan free old age home, Newperungalathur
- The purpose and other detail of the study were explained to the study subjects and oral consent was obtained from the patients

CONEPTUAL FRAMEWORK

The theoretical model found most appropriate for the study is Travis's Illness Wellness Continuum Model developed By Travis Ranges from High level of wellness to deformity (Travis and Ryan 2001 functional ability).

The illness wellness continuum illustrates the relationship of the treatment paradigm to the wellness paradigm. Moving from center to the left

shows a progressively worsening state of health. Moving to the right of the center indicates increasing levels of health and wellbeing .The treatment paradigms

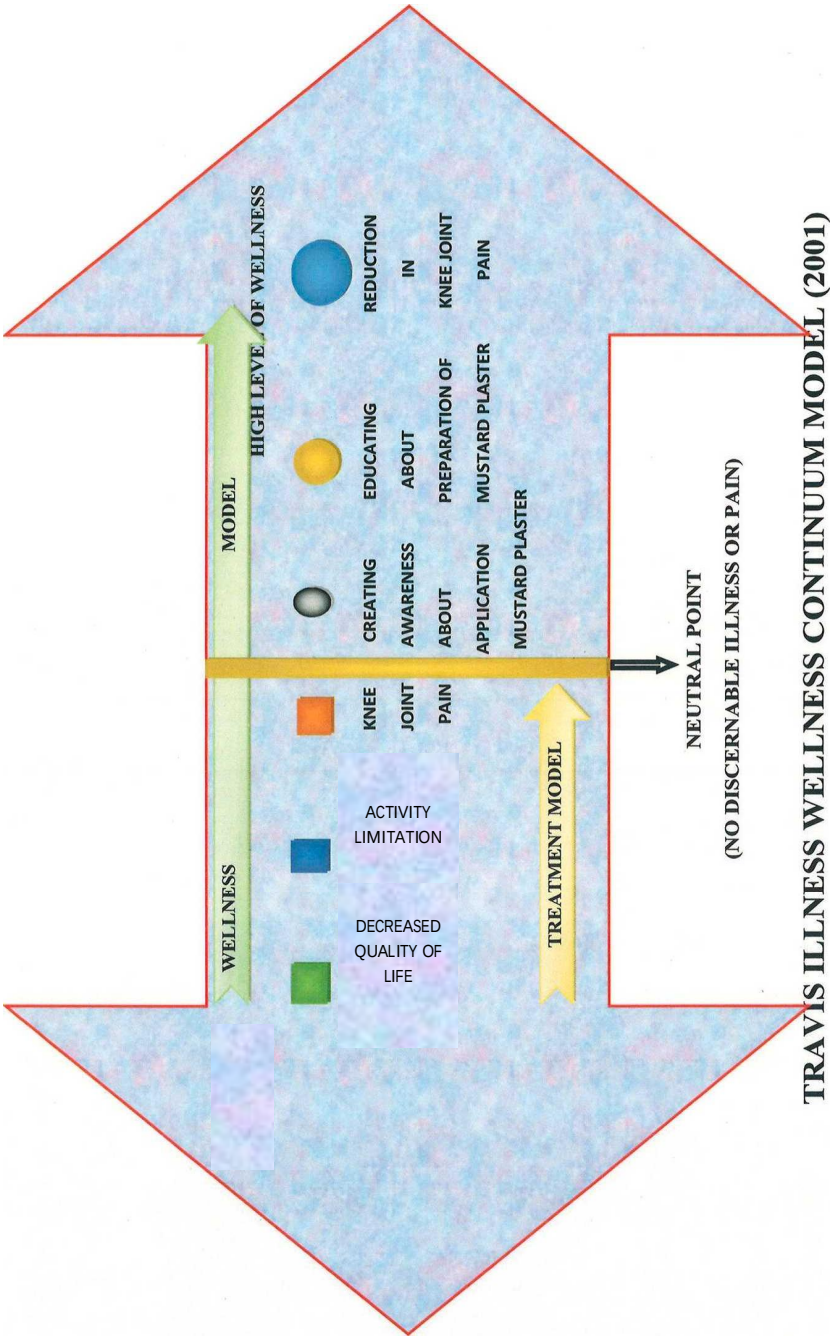

Fig.1 Conceptual Framework Based on Travis Illness Wellness Continuum Model (2001)

THE TWO ARROWS OF THE MODEL

The model illustrates two arrows pointing in opposite direction and joined at neutral point, the relationship of the treatment paradigm to the wellness paradigm.

1. TREATMENT PARADIGM
    - Signs
    - Symptoms
    - Disability
2. NEUTRAL POINT
3. WELLNESS PARADIGM
    - Awareness
    - Education
    - Wellness
4. HIGH LEVEL OF WELLNESS

SIGNS

Indicates the Knee Joint Pain in this Study.

SYMPTOMS

Indicates activity Limitations in this Study

DISABILITY

In This Study the Disability Indicates Inability of the Client to perform daily activities results in decreased quality of life.

AWARENESS

In This Study Awareness Is Creating or Emerging Knowledge about Application of Herbal Plaster to the Study Participants.

EDUCATION

In This Study Education Is Described as the Imparting Knowledge to the Study Participants about the Preparation of homemade herbal plaster

WELLNESS

It Is Attained by the Client after Application of the Herbal Plaster Results in Reduction of Knee Joint Pain.

HIGH LEVEL OF WELLNESS

Movement of arrow towards Right Side Indicates obtaining High Level of health by wellbeing of the patient this is achieved in three steps, they are creating awareness about application of herbal plaster, educating about homemade plaster application and after application there will be reduction of knee pain

CHAPTER-II

REVIEW OF LITERATURE

Reviewing of literature is an important step in the development of a research project. The written literature review provides the reader with a back ground for understanding what has already been learnt in a topic and illuminates what is significant in the new study (Polit & Hungler). Keeping this in mind the investigator probed into the accessible sources and gained in depth understanding from the related studies. It gives a theoretical base for the research and helps to determine the nature of research. Literature relevant to the present study was mentioned under the following headings:

The Review of Literature Grouped into Two Sections

<u>Section A</u> - Studies Related to knee joint pain among old age

<u>Section B</u> - Studies Related to homemade herbal plaster (mustard and basil) and home remedies for joint ailments

International journal of health sciences (2014) knee joint arthritis is a common progressive joint disease, involving not only the joint lining but also cartilage, ligaments, and bone. For the last ten years, majority of published review articles were not specific to osteoarthritis of the knee, and strength of evidence and clinical guidelines were not appropriately summarized.

Rheumatic disease clinic of North America (2012) Osteoarthritis is the most prevalent form of arthritis in the United States, affecting more than 70% of adults between 55 and 78 years of age. Women are affected more than men. Hip osteoarthritis is more common in Western populations, suggesting that race and environmental factors might also be important. The incidence of symptomatic knee osteoarthritis is 1% per year, with a radiographic incidence of ***2%*** per year. The rate of radiographic progression

has been estimated at about 4% per year. Osteoarthritis (OA) is estimated to affect 630 million people worldwide - 15% of all the people on the globe.

Michael C. Nevitt, (2011) arthritis prevalence is approximately 6.1% for knees in U.S. adults who are aged 30 and older; thus, approximately 12 million persons have symptomatic knee osteoarthritis Because, of its prevalence, knee joint pain due to cartilage generation has major impact on the burden of disability in older Americans. OA is ranked as either the top or second leading cause of disability among elders Epidemiology is the study of the occurrence of disease in populations and its association with characteristics of people and their environments. Epidemiologic studies have provided much information about the occurrence of OA. Disease in the knee is common, especially among the aged; hip OA is less prevalent in most populations than disease in the knee; and for disease in the hand, and radiographic OA is nearly universal in older people, whereas symptoms are less frequent. Studies have also shown that, for most joints, women who are older than 50 have a higher incidence and prevalence of disease than men. Throughout the United States and Europe, the prevalence of OA and its societal burden in terms of disability and economic costs is high. These critical data serve one important role of epidemiologic studies, to estimate disease impact and the need for resource allocation.

Ann JVI Lynch (2011) Knee joint pain, the leading cause of disability among older adults in the United States. Treatment options such as acetaminophen and nonsteroidal anti-inflammatory drugs are the most widely used agents to manage mild-to-moderate pain. Treatment with Tramadol or Opioids is usually reserved foils severe pain associated with. These agents do not come without risk, especially for older adults. Patient-specific parameters and co morbid conditions must be considered when evaluating treatment options for older adults.

John Carey (2010). Significant disability and loss of function are associated with the joint pains especially knee arthritis and its management is an enormous cost to the health care system. Rather than one uniform disease, osteoarthritis may be a primary or an idiopathic phenomenon, or it may be secondary to some other disorder. Osteoarthritis is also commonly seen as a secondary form of arthritis in patients with other inflammatory arthritis, such as rheumatoid arthritis. Mechanical and genetic factors play roles in the development of this disease as well. Histological evidence clearly shows ongoing inflammation and cartilage destruction in osteoarthritis, although not to the same degree as in other arthritis, such as rheumatoid arthritis.

John Hopkins arthritis center (2010) common joint disorder with symptoms in the hands, knees, hips, back, and neck. It is unclear exactly how excess weight influences OA. Clearly, being overweight increases the load placed on the joints such as the knee, which increases stress and could possibly hasten the breakdown of cartilage, For example, it is estimated that a force of nearly three to six times one's body weight is exerted across the knee while walking; an increase in body weight increases the force by this amount, However, overweight has also been associated with higher rates of hand OA in some studies suggesting, the involvement of a circulating systemic factor as well.

Framingham, (2010) overweight individuals in their thirties who did not have knee OA were at greater risk of later developing the disease. Other investigations, which performed repeated x-rays over time also, have found that being overweight significantly increases the risk of developing knee OA. It is estimated that persons in the highest quintile of body weight have up to 10 times the risk of knee OA than those in the lowest quintile.

Felson (2010) noted that among women with a baseline body mass index (BMI) greater than or equal to 25, weight loss was associated with a

significantly lower risk of knee OA. For a woman of normal height, for every 11 lb. weight loss (approximately 2 BMI units), the risk of knee OA dropped > 50%. Conversely, a comparable weight gain was associated with an increased risk of later developing knee OA (odds ratio 1.28 for a 2 BMI weight gain). The investigators concluded that in elderly persons, if obese men (i.e., BMI greater than 30) lost enough weight to fall into the overweight category (BMI 26-29.9) and men in the overweight category lost enough weight to move into the normal weight category (BMI less than 26), knee OA would decrease by 21.5%. Similar changes in weight category by women would result in a 33% decrease in knee OA. A handful of studies have indicated that weight loss substantially reduced reports of pain as well. Thus, weight loss potentially offers an important modifiable factor in the behavioral treatment of knee OA.

Susan Bartlett, (2009) Knee osteoarthritis (OA) is common in older adults. Determination of risk factors for onset of knee OA may help in its prevention. The systematic review, and meta-analysis, was to determine the current evidence on risk factors for knee OA. A systematic literature search was carried out for cohort and case-control studies evaluating the association of demographic, co morbid, and other patient-determined factors with onset of knee OA. A scoring tool was developed to assess the quality of studies. Heterogeneity of studies was examined. Where possible studies were pooled to give an overall estimate of the association of factors with onset of knee OA. Of the 233 studies screened, 85 were eventually included in the review. Study quality tended to be moderate. The main factors consistently associated with knee OA were obesity (pooled OR 2.63, 95% CI 2.28-3.05), previous knee trauma (pooled OR 3.86, 95% CI 2.61-5.70), hand OA (pooled OR 1.49, 95% CI 1.05-2.10), female gender (pooled OR 1.84 95% CI 1.32-2.55) and older age. Smoking appeared to have a moderate protective effect; however, this was not evident once the analysis was restricted to cohort studies only. While certain factors have been extensively

revived, more longitudinal studies are needed to investigate the association of physical occupational and other patient-determined factors with future knee OA. The quality of such studies also needs to be improved. However, there are identifiable factors which can be targeted for prevention of disabling knee pain.

Ann Rheum (2009) cartilage degeneration is the single most common cause of disability in older adults, and most patients with the condition will be managed in the community and primary care. A literature search identified studies of incidence and prevalence of knee pain, disability, and radiographic osteoarthritis in the general population, and data related to primary care consultations. Findings from UK studies were summarized with reference to European and international studies. During a one-year period 25% of people over 55 years have a persistent episode of knee pain, of whom about one in six in the UK and the Netherlands consult their general practitioner about it in the same time period. The prevalence of painful disabling knee osteoarthritis in people over 55 years is 10%, of whom one quarter is severely disabled. Knee osteoarthritis sufficiently severe to consider joint replacement represents a minority of all knee pain and disability suffered by older people. Healthcare provision in primary care needs to focus on this broader group to impact on community levels of pain and disability.

SECTION B STUDIES RELATED TO HERBAL PLASTER APPLICATION

Everydayhealth.com/arthritis (2014) In modern scientific studies, some of these arthritis cures have proven to be effective, An easy way to use mustard seed for joint pain relief, Make a plaster with warm mustard seed oil and applying it to swollen, arthritic joints found to be effective reduction in knee joint pain frankincense provided patients with knee osteoarthritis and there was significant reduction in knee joint pain.

Jeffrey M. Weinberg (2012) Mustard seeds have been used in traditional folk medicine as a stimulant, diuretic, and purgative and to treat a variety of ailments including peritonitis and neuralgia. Mustards are still used today in mustard plasters to treat rheumatism, arthritis, chest congestion, aching back, and sore muscles. To make a mustard plaster, mix equal parts of flour and powdered mustard and spread it as a paste on a doubled piece of soft cloth. Apply mustard plaster to the affected area for a maximum of 15 minutes. Despite the advances in medicine, a tendency towards using alternative treatments can be seen in every population, including the Turkish one, and plant application is among the most common hoods used in folk medicine.

Tokifumi Majima (2010), conducted a study on Effect of the Japanese herbal medicine, 'Boiogito', on the osteoarthritis of the knee with joint effusion. Japanese herbal medicine contains 'sinomenine' which inhibits inflammatory reactions. Study was performed using 50 patients who were diagnosed with primary osteoarthritis of the knee with joint effusion. The patients were randomly assigned to two groups: one group (25 patients) using both loxoprofen (2-{4-[(2-oxocyclopentyl) methyl]} propanoic acid) and 'Boiogito' and the other group (25 patients) using loxoprofen, and were evaluated during a 12-week observation period.

H Yabanoglu (2012), Arthritis has been afflicting humans for a long time according to some reports, as far back as 4500 B**.**C, and our ancestors used many natural remedies to treat arthritis pain. In modern scientific studies, some of these arthritis cures have proven to be effective in relieving joint pain. Apply mustard plaster to the affected area for a maximum of 15 minutes. Helps the client to relief from the osteoarthritis pain

Edward et al., (2011), tried successful mustard as a topical treatment for arthritis. The study group contained 90 arthritis clients. Mustard oil was applied over painful joint and massaged the post procedural pain scores

indicated a significant reduction in joint pain among the participants studies related osteoarthritis and alternative therapy.

Edelstein B (2011) a randomized trial on treatment effect of mustard oil massage compared to relaxation tape recordings on long term musculoskeletal pain. This randomized clinical trial was to assess the possible effects of mustard oil massage as compared to listening to relaxation tape on musculoskeletal pain. During treatment, there was significant improvement in self rated heath, mental energy and pain reducing only in the mustard oil massage group as compared to relaxation group.

Laurence (2010) applied an apparatus with incorporates a cooling compartment (mustard) encircling the head, extended down to the neck and a separate warming compartment is applied to the vertex was employed in 28 clients with recurrent headaches. Findings of the study reveal that severity of the head ache was reduced after application of the mustard pack.

Krasnegor J (2010) conducted study on benefits from massage therapy in juvenile rheumatoid arthritis. children with mild to moderate juvenile rheumatoid arthritis cured massaged using mustard oil by their parent 15mins a day for 30 days. The children's immediately reducing pain by mustard oil massage were assessed by self-reports, parents reports their physician assessment of pain and pain limiting activities.

Simons et al., (2009) conducted study on mustard oil differential effects on the trigeminal caudalis neurons to heat and acidity, they found that, when applied to the oral or mucosal mustard oil evokes a desensitizing pattern of irritation. They investigated the response of neurons in superficial laminar of trigeminal subcutaneous caudalis to noxious thermal (53c) and chemical (pentatonic acid) prior to the and following lingual mustard oil application the data suggest that the effect of mustard oil on subsequent responses is effective and specific.

Norwich UK (2009) A research was done on human colorectal cancer cells at institute of food research intestinal and functional health group. They reported that mustard yield an anticancer chemical when cooked. The chemical called allyl-isothiocyanate the uncontrolled cell division of colon cancer cells and may protect against other cancers, notably lung cancer.

Jorg et al., (2009) found that topical application of mustard oil to the skin activities underling sensory nerve endings thereby reducing pain and inflammation hypersensitivity to thermal and mechanical stimuli. Mustard oil depolarizes a sub population of primary sensory neurons. These findings identify a cellular and molecular target for the pungent action of the mustard oils and support emerging role for TRP channels as ionotropic cannabinoids receptors.

NaturaI Medicine Comprehensive Database, (2009) Mustard (Brassica) topically, used as a poultice for bronchial pneumonia, pleurisy, arthritis, lumbago, aching feet, rheumatism, and as a counterirritant to treat inflammation and joint pain Topical Preparation of mustard plaster; 100 grams of mustard flour mixed with warm water to make a paste. Put mustard paste into linen and apply for 10 minutes has Generally Recognized as Safe (GRAS) status in the US.

CHAPTER – III

RESEARCH METHODOLOGY

INTRODUCTION

(Polit 2008) The methodology of the research study is defined as the way the patient information is gathered in order to answer the research question or analyses the research problem .It enables the researcher to project a blueprint of the research undertaken. This chapter on methodology includes research approach, research design, setting, population of the study, criteria for the selection of sample, sample size, sampling technique, description of the tool, and validity of the tool, pilot study, data collection procedure and plan for data analysis.

RESEARCH APPROACH:

The research approach chosen for this study was **Quantitative Research Approach**

RESEARCH DESIGN

Research design is the plan for obtaining an answer, to the research questions for testing the research hypothesis (Polit and Hungler1999)

Quasi Experimental Design was adapted was adopted for this study to assess the effectiveness of homemade herbal plaster application and knee join pain

THE SCHEMATIC REPRESENTATION

Group	Pretest	Intervention	Post test
Study group	01	X	02
Control group	01	-	02

Key

01 –To assess the pretest level knee joint pain among patients with knee join pain in the experimental group and control group

X – Homemade herbal plaster application.

02- Post-test level of pain in the experimental group and control group

VARIABLES

Independent variable is homemade herbal plaster application on knee joint.

Dependent variable in this study level of knee joint pain among elderly (above 60 years)

SETTING

This study was carried out in Amma–Appa old age care, Mudichur, Chennai and Navajeevan free old age home, Chennai

Amma-Appa old age home located in Kombi amman nagar, opposite to BP petrol pump, Mudichur, Chennai. More than 50 aged and disabled residing in calm and lively atmosphere in the home. Medical assistance, well balanced diet, individual attention with trained staffs, spiritual relief makes the inmates live a happy life with confidence and independence. Cordial relationship of founder and other workers towards home inmates makes the place no difference of their own living home.

Navajeevan free old age home is located in Vivekananda Street near perungalathur railway station, New perungalathur. It is a heavenly place for the senior citizens to live a full, worry free life in their retirement years, in the serene atmosphere. There are 60, both men and women senior citizens from in and around Chennai live there .Apart from food and shelter ,special medical facilities, spiritual growth Centre, fine entertainment options gives a premier lifestyle option that makes aging a real privilege .

POPULATION:

Population is the entire population in which researcher is interested and would like to generalize the results of the study. (Polit and Beck 2004).

Population of the study includes elders (above 60 years) with knee joint pain in Amma – Appa oldage care, Mudichur, Navajeevan free old age home, Newperungalathur, Chennai

SAMPLE SIZE:

The size of the study was 60 elderly people with knee joint pain (30 sample to experimental group and 30 sample to control group)

SAMPLING TECHNIQUE:

Sampling technique refers to the process of selecting a portion of the population to represent the entire population (Polit and Hungler, 1999)

In this study, non probability convenience sampling technique was used to select the sample.

CRITERIA FOR SELECTINGTHE SAMPLE:

The sample selection based on the following inclusion and exclusion criteria.

INCLUSION CRITERIA:

- The study includes elderly above 60 years
- Elders with mild to severe knee joint pain
- Both male and female participants
- Person who could speak and understand Tamil and English language
- who were willing to participate

EXCLUSION CRITERIA:

- Person with cognitive and sensory impairment.
- Persons with chronic conditions such as bone cancer and septic arthritis.
- Patients with extreme knee joint pain
- Patients on medical treatment or takes analgesics for knee joint pain
- Elders who are included in the pilot study.

DATA COLLECTION TOOL

DESCRIPTION OF THE TOOL

SECTION I: Consists of questions to elicit demographic data such as age, gender, nature of work and area where they resided before coming to the home

SECTION II: Adapted WOMAC Index (Western Ontario Mc Master Universities index) questionnaire with numeric rating scale

- The WOMAC Index (Western Ontario Mc Master University Index) Questionnaire is used to assess patients with knee joint pain.
- 24 parameters are arranged under 2 subscales as pain and difficulty in performing daily activities there are 5 responses with scoring from 0-4.

The score was interpreted as follows:

Score in Percentage	Rating
1 -24%	Mild
25-48%	Moderate
49 -72%	Severe
73-96%	Extreme

TESTING OF THE TOOL:

VALIDITY

Content validity was ensured by giving tool to 2 nursing experts in the field of medical and surgical nursing 1 medical expert. Correction was made according to the expert`s opinion and guidance. Tool is validated and widely accepted as standardized tool.

RELIABILITY:

Reliability is the degree of consistency or dependability with which instrument measures the attribute is designed to measure. (Polit and Hungler, 1999)

The reliability of the tool was tested by test –retest method. r value is got as 0.963. Hence the tool was considered highly reliable for proceeding with the main study.

PILOT STUDY

Pilot study was conducted in the AMMA -APPA old age care after obtaining permission from the management. Following which data was collected from six persons above 60 years with knee joint pain who fulfilling the inclusion criteria.

The severity of knee pain was assessed using WOMAC Index. Patients were given homemade herbal plaster application along with hot water bag (110-degree F) application for 20 minutes. The post test was conducted on 7^{th} day using WOMAC Index questionnaire with numeric rating scale. The results were analyzed.

The following modifications were done after the pilot study:

1. Objectives minimized to 4 out of 6
2. Those who were taking medical treatment for joint pain are added in exclusion criteria

DATA COLLECTION PROCEDURE

Study was conducted in Amma-Appa old age care and Navajeevan free old age home after obtaining formal permission from the home management. Data collection was done for a period of 6 week from 21.11.2016 to 31.12.2016 ,60 samples were selected using non-probability convenience sampling technique.

After explaining the purpose of the study, oral consent was obtained from the samples. Confidentiality of the information collected was assured.

In pretest information collected about demographic and clinical variables using self-structured questionnaires, level of pain is assessed using WOMAC index and numeric rating scale for both the groups

For experimental group, the plaster is prepared by mixing two table spoon of dry mustard powder, 1 table spoon of dry basil powder with four table spoon of wheat flour mixing with Luke warm water. The paste is then spread over the clean cotton cloth and edges of the cloth are folded in wards to form the plaster, plaster is then applied to the painful joint and hot water bag (110-degree F) is provided on top for 20 minutes. Freshly prepared plaster is applied once a day for 7 consecutive days. For control group only routine care was given

After 7 days, the same WOMAC index questionnaire with numeric rating scale was used to assess the pain level in both experimental and control group.

PLAN FOR DATA ANALYSIS

S.No.	**Objectives**	**Statistical Method**	**Data Analysis**
1.	To assess the pretest and posttest level of knee joint pain among study group and control group	Descriptive statistics	Frequency, percentage distribution, Mean &standard Deviation
2.	To determine the effectiveness of homemade herbal plaster on knee joint pain	Inferential Statistics	Wilcoxon paired 't' Mann-Whitney test
3.	To compare the post-test level of knee joint pain between the experimental group and control group		't' test
4.	To associate knee joint pain with the selected demographic and clinical variables of the experimental group		Chi –Square test

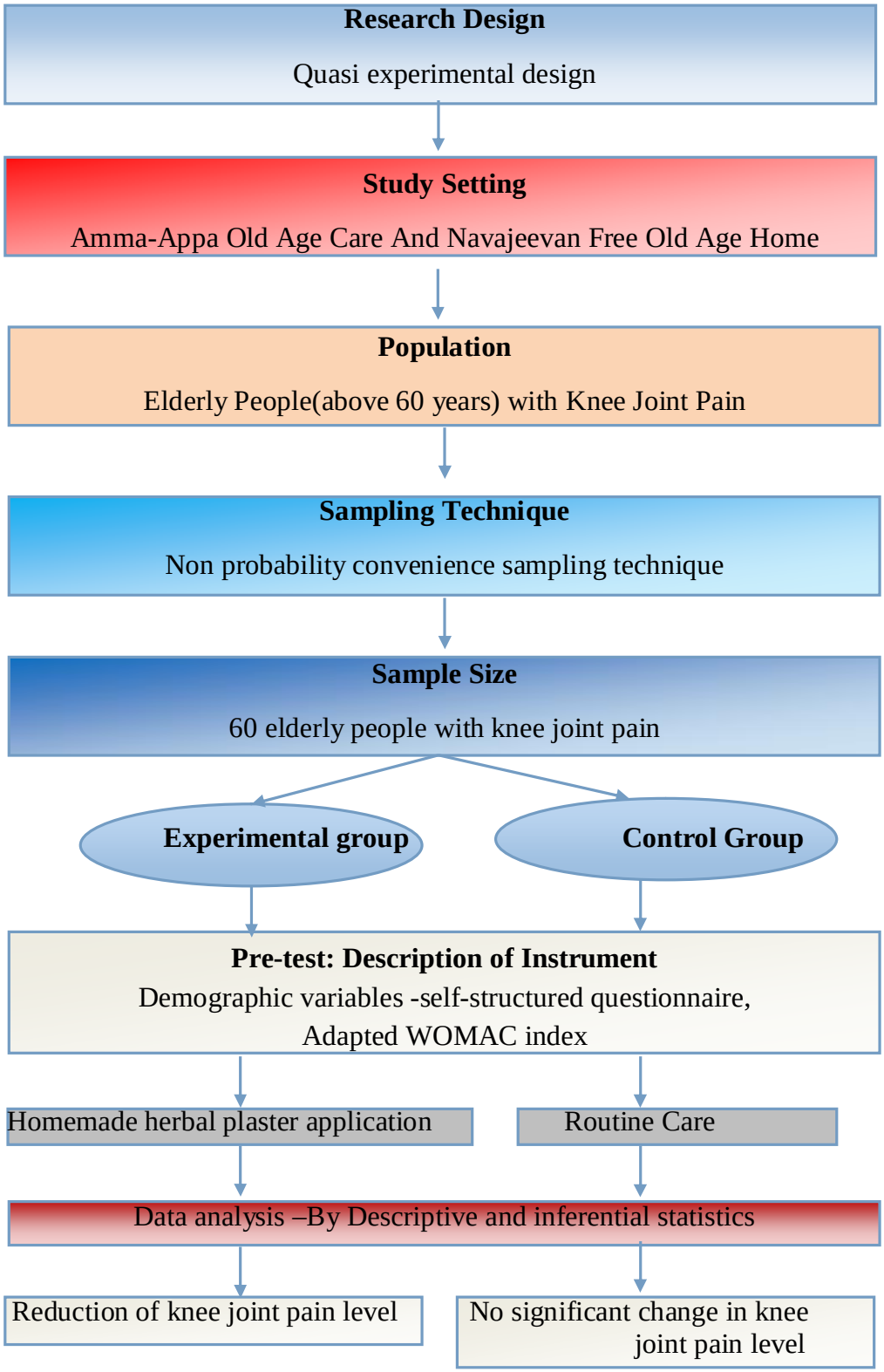

Fig.2. Schematic representation of research methodology

CHAPTER -IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with analysis and interpretation to assess the effectiveness of homemade herbal plaster on knee joint pain among elderly (above 60 years) in selected old age homes, Chennai.

Descriptive and inferential statistics used for the analysis of the data. According to the study objectives the interpretation had been tabulated and organized as follows

ORGANIZATION OF DATA

SECTION A: Description of demographic variables of study participants with knee joint pain among experimental and control group

SECTION B: Assessment of pretest and post-test level of knee joint pain among study participants in experimental group and control group

SECTION C: Effectiveness of homemade herbal plaster on knee joint pain among study participants in the experimental group

SECTION D: Comparison of post-test level knee joint pain among study participants between the experimental and control group

SECTION E: Association between level of knee joint pain with selected demographic variables

SECTION A: Description of demographic variables of study participants with knee joint pain among experimental and control group

TABLE – 1: Frequency and percentage distribution of demographic variables of elderly with knee joint pain in experimental group and control group

N = 30 + 30

Demographic Variables	Experimental Group		Control Group	
	No	%	No	%
Age in Years				
60-64	1	3.33	2	6.67
65-69	7	23.33	5	16.67
70-74	9	30.00	11	16.67
75-79	13	43.33	12	40.00
Sex				
Males	13	43.33	12	40.00
Females	17	56.67	18	60.00
Past area of residence				
Urban	16	53.33	16	53.33
Rural	14	46.67	14	46.67
Nature of work				
Heavy	3	10.00	6	20.00
Moderate	6	20.00	5	16.67
Sedentary	21	70.00	19	63.33
Body Mass Index				
Under weight (<18.5)	1	3.33	2	6.67
Normal weight (18.5 – 25)	7	23.33	5	16.67
Over weight (25 - 30)	9	30.00	11	36.67

Demographic Variables	Experimental Group		Control Group	
	No	%	No	%
Obese (>30)	13	43.33	12	40.00
Dietary Pattern				
Vegetarian	6	20.00	27	90.00
Non-vegetarian	24	80.00	3	10.00
Exercise Habit				
Yes	9	30.00	9	30.00
No	21	70.00	21	70.00
Family History of Knee Joint Pain				
Yes	10	20.00	11	90.00
No	20	80.00	19	10.00
History of previous medical treatment for knee joint pain				
Yes	8	26.67	12	40.00
No	22	73.33	18	60.00

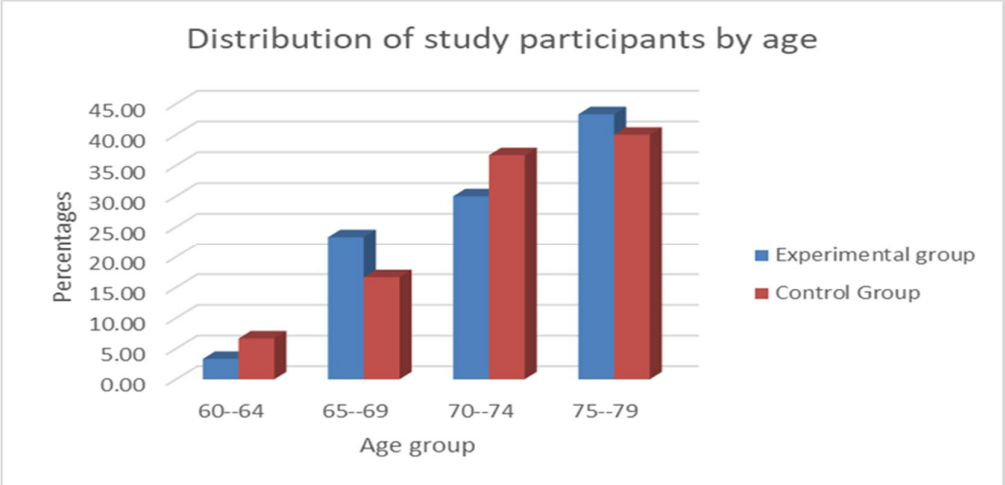

Fig 3. Percentage distribution of age of the study participants in experimental group and control group

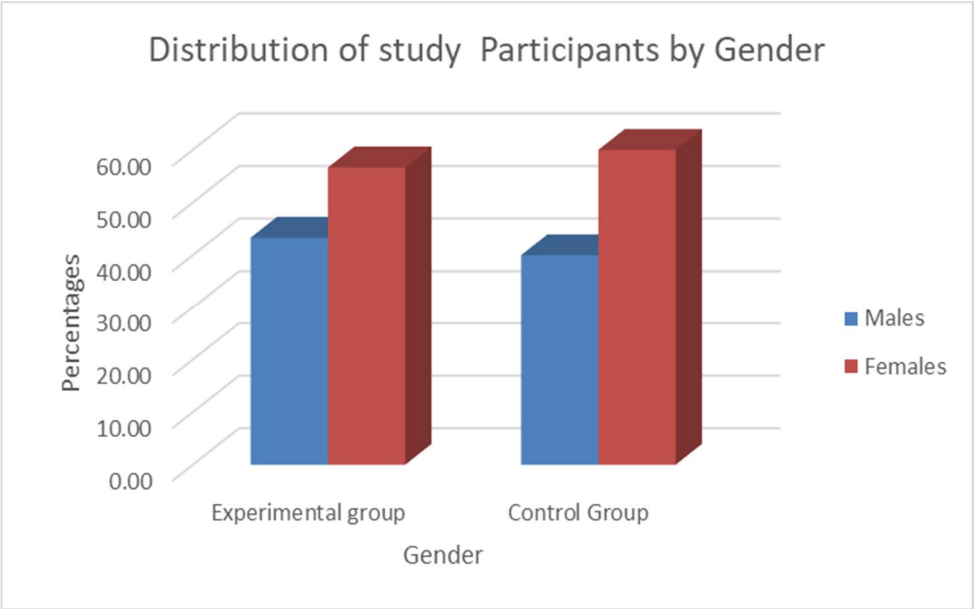

Fig..4. Percentage distribution of gender of the study participants in the experimental group and control group

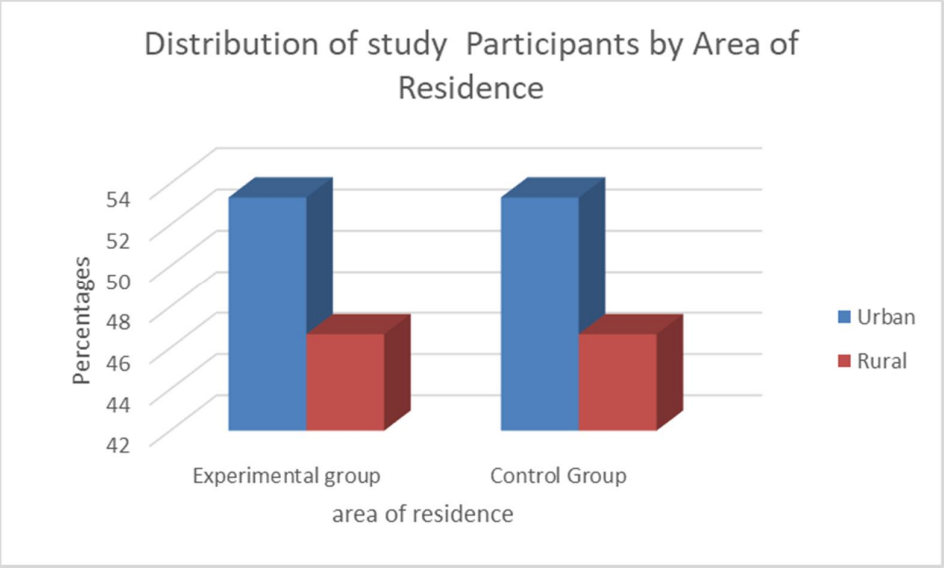

Fig.5. Percentage distribution of study participants by past Area of Residence in the experimental group and control group

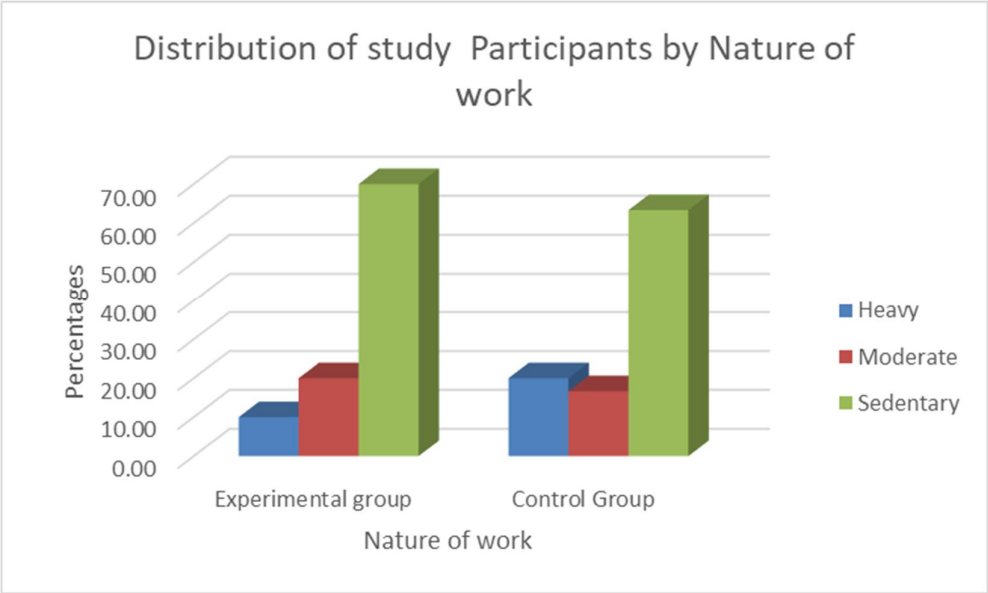

Fig.6. Percentage distribution of study participants by Nature of work (past) in the experimental group and control group

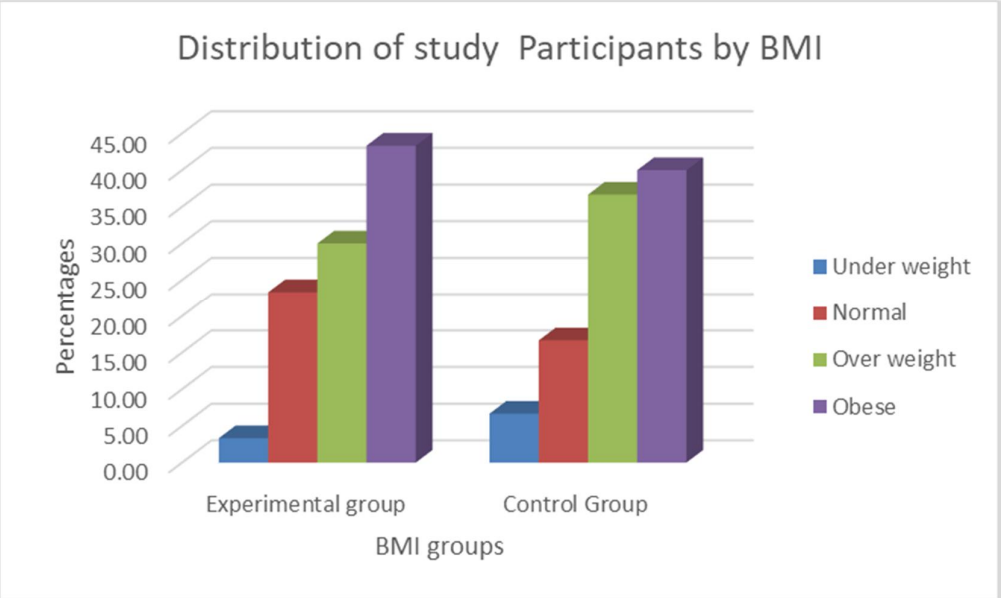

Fig.7. Percentage distribution of study participants BMI in the experimental group and control group

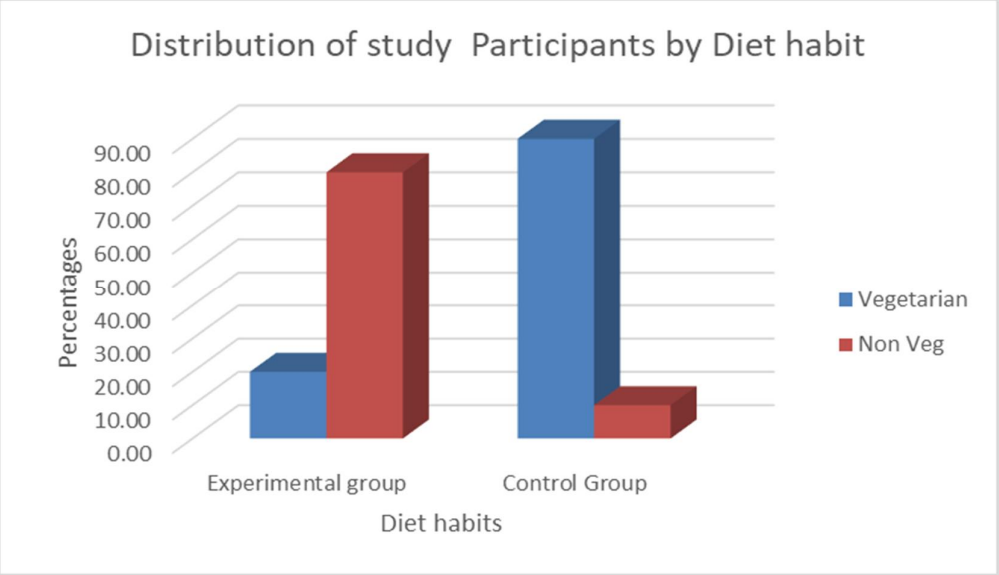

Fig.8. Percentage distribution of study participants by dietary pattern in experimental group and control group

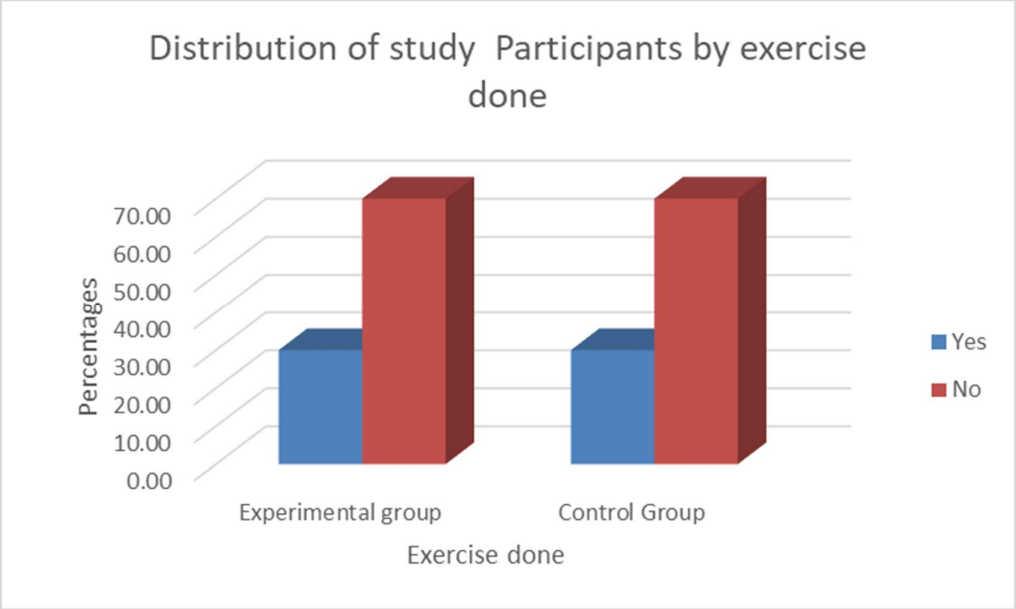

Fig.9. Percentage distribution of study participants by exercise habit in experimental group and control group

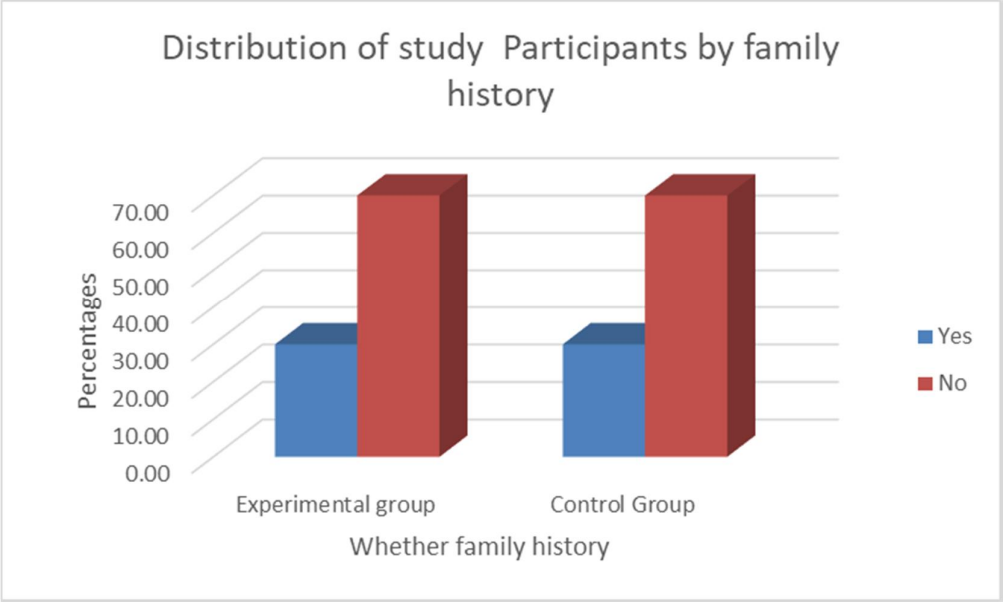

Fig.10. Frequency distribution of study participants by family history of knee joint pain in experimental group and control group

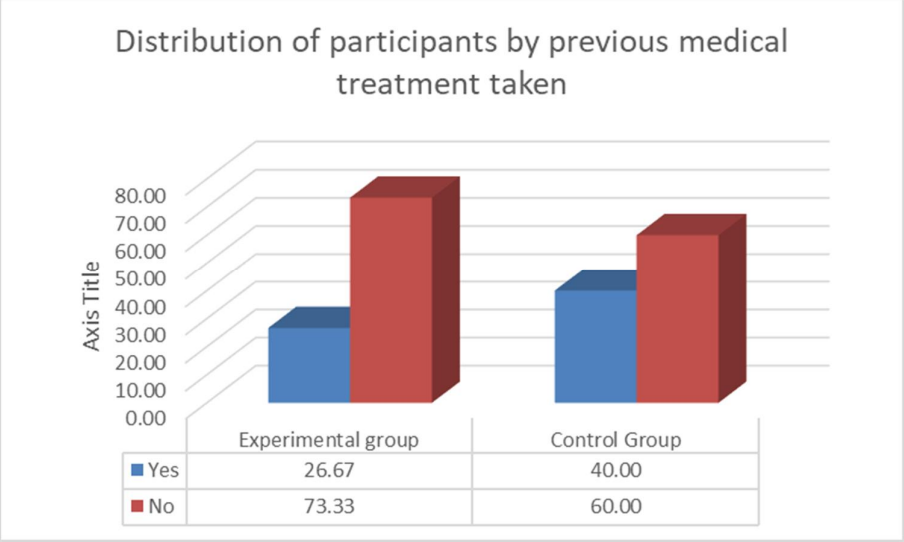

Fig.11. percentage distribution of study participants by history of previous medical treatment for knee joint pain in experimental group and control group

SECTION B: Assessment of pretest and post-test level of knee joint pain among study participants in experimental group and control group

Table - 2: Frequency and percentage distribution of pretest and post-test level of knee join pain among the study participants in the experimental group N = 30

Scoring pattern	Pre-test		Post-test	
	Frequency	Percentage	Frequency	Percentage
No pain	0	0	5	16.7
Mild	2	6.7	15	50
Moderate	14	46.7	6	26.7
Severe	14	46.7	2	6.6
Total	30	100	30	100

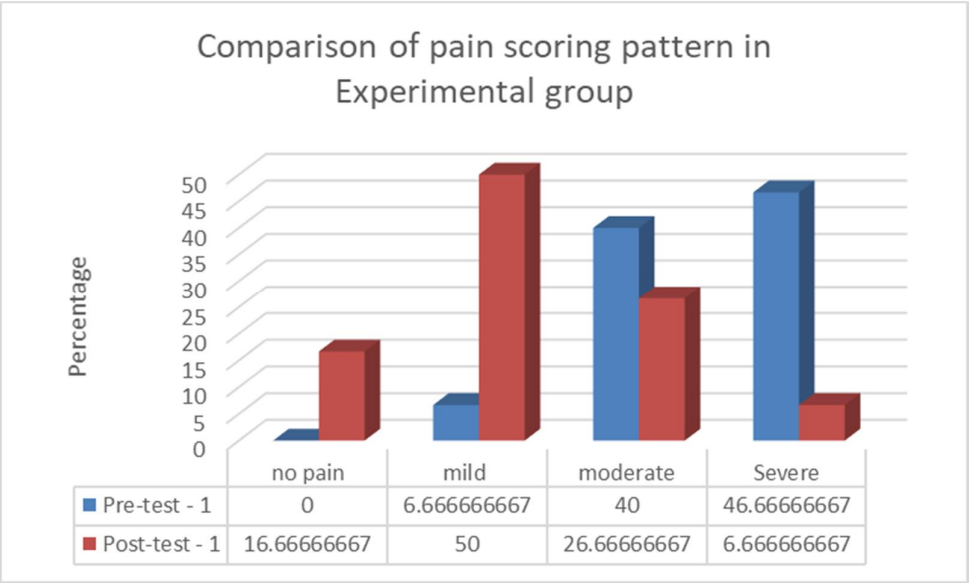

Fig.12. Percentage distribution of pretest and post-test level of knee joint pain among study participants in experimental group

Table - 3: Frequency and percentage distribution of pre-test and post-test and post-test level of knee join pain among the study participants in the control group

Scoring pattern	Pre-test		Post-test	
	Frequency	Percentage	Frequency	Percentage
No pain	0	0	1	3.3
Mild	4	13.333	5	16.7
Moderate	8	26.667	11	36.7
Severe	18	60	13	43.3
Total	30	100	30	100

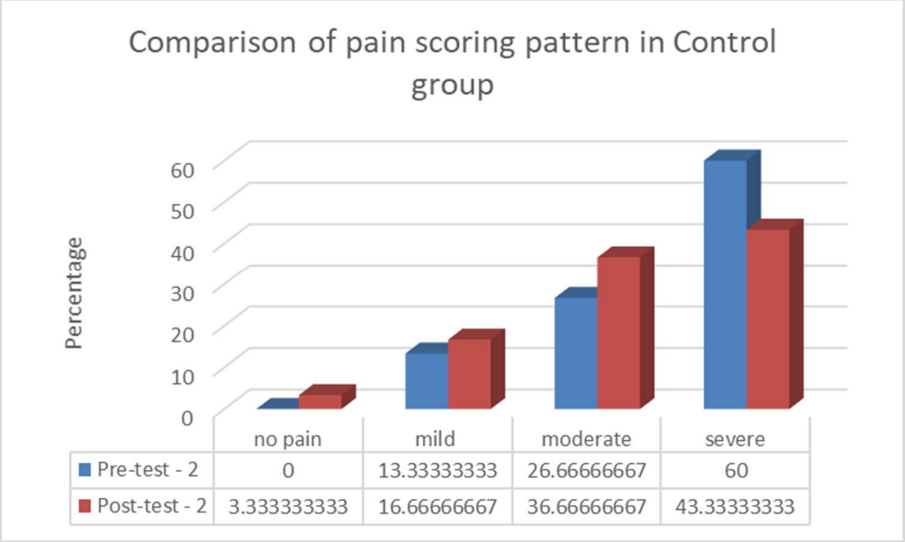

Fig.11. percentage distribution of pretest and post-test level of knee joint pain among study participants in control group

SECTION C: Effectiveness of homemade herbal plaster on knee joint pain among study participants in the experimental group

Table - 4: Comparison of Pre-test and Post-test level of knee joint pain among study participants in experimental group

N = 30

Level of Knee Joint Pain	Median	Sum	Paired T value	P Level	Remarks
Pre-Test	50.000	1448.000	2.000	P < 0.01	Significant
Post-Test	21.000	685.000			

The above table shows that in the experimental group Post-test median score of knee joint pain level was 21.000 with sum of 685.000 and pre-test median was 50.000 with sum of 1448.000. The calculated paired t value 2.000 was found to be statistically significant at P < 0.01 level which clearly shows post test scores are significantly less than the pre-test scores. Hence, the study is effective.

Table - 5: Comparison of Pre-test and Post-test level of knee joint pain among study participants in control group

N = 30

Level of Knee Joint Pain	Median	Sum	Paired T value	P Level	Remarks
Pre-Test	48.500	1399.000	5.500	P < 0.01	Significant
Post-Test	46.000	1323.000			

The above table shows that in the control group Post-test median score of knee joint pain level was 46.000 with sum of 1323.000 and pre-test median was 48.500 with sum of 1399.000. The calculated paired t value 5.500 was found to be statistically significant at P < 0.01 level which clearly shows that the post test scores are significantly different from that of pre-test score. Hence, there is a minimal pain reduction which is not related with any intervention.

Table - 6: Comparing % change from pre-test score to post-test score between experiment group and control group

N = 30

Group	Median		Sum	Mann-Whitney U Value	P Level	Remarks
Experimental Group	Pre-Test	57.046	1580.433	824.000	P <0.01	Significant
	Post Test	0.000	178.587			
Control Group	Pre-Test	45.0	1289.0			
	Post Test	13.0	541.0			

The above table shows that the experimental group pre-post median was 57.046 with sum of 1580.433 and post-test median was 0.000 with sum of 178.587 in the control group pre-test median was 45.0 with sum of 1289.0 and post-test median 13.0 with sum of 541.0. The calculated U value 824.000 was found to be statistically significant at P < 0.01. Hence, the percentage change from Pre-test score to post test score in experimental group is significantly greater than that in the control group. This clearly shows that the treatment proved effective.

SECTION D: Comparison of post-test level knee joint pain among study participants between the experimental and control group

Table - 7: post-test comparison between experimental and control group

Post test	Mean	S. D	t value	Remarks
Experimental group	22.833	14.809	5.052 P < 0.01	Significant
Control group	44.100	17.674		

The above table shows that in the experimental group Post-test mean score of 22.833 with S.D 1 4 and control group post-test mean score of 44.100 with S.D 17.674. The calculated t value 5.052 was found to be statistically significant at P < 0.01 level which clearly shows post-test scores of experimental groups significantly lower than the control group Hence, the treatment is effective.

SECTION E: Association between level of knee joint pain with selected demographic variables

Table - 8: Association of post-test level of knee joint pain and demographic variables in experimental group

S. No	Demographic variables	No pain		Mild		Moderate		Severe		Chi square
		N	%	N	%	N	%	N	%	
1.	**Age in Years**									13.35 d.f =9 P>0.05 NS
	60-64	0	0	0	0	1	3.3	0	0	
	65-69	0	0	2	6.7	4	13.3	1	3.3	
	70-74	2	6.7	4	13.3	3	10	0	0	
	75-79	3	10.0	9	30	0	0	1	3.3	
2.	**Sex**									5.32 d.f =3 P<0.05 S
	Males	1	3.3	5	16.7	6	20	1	3.3	
	Females	4	13.3	10	33.3	2	6.7	1	3.3	
3	**Area of Residence**									7.87 d.f =3 P>0.05 NS
	Urban	3	10.0	11	36.7	1	3.3	1	3.3	
	Rural	2	6.7	4	13.3	7	23.3	1	3.3	
4.	**Nature of work**									7.9 d.f =6 P>0.05 NS
	Heavy	2	6.7	1	3.3	0	0	0	0	
	Moderate	1	3.3	4	13.3	1	3.3	0	0	
	Sedentary	2	6.7	1-	33.3	7	23.3	2	6.7	
5.	**Body Mass Index**									12.8 df=9 P>0.05 NS
	Under weight (<18.5)	1	3.3	0	0	0	0	0	0	
	Normal weight (18.5 – 25)	3	10.0	3	10	1	3.3	0	0	
	Over weight (25 - 30)	1	3.3	5	16.7	2	6.7	1	3.3	
	Obese (>30)	0	0	7	23.3	5	16.7	1	3.3	

S. No	Demographic variables	No pain		Mild		Moderate		Severe		Chi square
		N	%	N	%	N	%	N	%	
6.	**Dietary Pattern**									6.2 d.f=3 P> 0.05 NS
	Vegetarian	3	10	2	6.7	1	3.3	0	0	
	Non-vegetarian	2	6.7	13	43.3	7	23.3	2	6.7	
7	**Exercise Habit**									7.62 d.f=3 P> 0.05 NS
	Yes	4	13.3	3	10	2	6.7	0	0	
	No	1	3.3	12	40	6	20	2	6.7	
8	**Family History of Knee Joint Pain**									10.2 d.f=3 P<0.05 S
.	Yes	0	0	3	10	6	20	1	3.3	
	No	5	16.7	12	40	2	6.7	1	3.3	
9.	**History of Previous medical treatment**									7.33 d.f=3 P> 0.05 NS
	Yes	2	6.7	2	6.7	2	6.7	2	6.7	
	No	3	10.0	13	43.3	6	20	0	0	

Note: NS: Not significant ($p > 0.05$) S: Significant ($p<0.05$).

The above table 8 denotes that the demographic variables like gender (Female) and family history of knee joint pain has significant association at $p<0.05$ with the posttest level of joint pain in the experimental group. Other demographic variables had not shown any statistical significant association with post-test level of knee joint pain in the experimental group**.**

CHAPTER - V

DISCUSSION

The study was conducted to assess the effectiveness of homemade herbal plaster application on knee joint pain among elderly in selected old age homes Chennai.

60 elderly study participants selected for the study 30 were in each experimental group and control group pretest was conducted for both groups by using self-structured questionnaire and WOMAC scale homemade herbal plaster application was given for the experimental group and after even days post test was conducted for both groups. The collected data was organized tabulated and analyzed. The study founding is discussed in this chapter with reference to the objectives and hypothesis.

Description of Demographic Variables of Samples

In experimental group, majority of study participants 13 (43.33%) were in the age group of 75 – 79, 17 (56.67%) were females, 16 (53.33%) were from urban area of residence, 21 (70.0%) were doing sedentary work. With regard to weight, 13 (43.33%) were obese 9 (30.0%), were overweight, 24 (80.0%) were non-vegetarian 21 (70.0%) were does not do any exercise 20 (80.0%) were had no family history of knee joint pain and none of them were taking medications for knee joint pain presently.

Whereas in the control group majority of study participants 12 (40.0%), were in the age group 75-79,18 (60.0%) were females, 16 (53.33%) were from urban areas of residence, 19 (63.33%) were doing sedentary works. 12 (40.0%) were obese 11 (36.67%5) were overweight 16 (67.0%) were normal weight 27 (19.0%) were vegetarians 21 (70.0%) does not do exercise 19 (90.0%) had non family history of knee joint pain and 8(26.67%) were taken medical treatment for the knee joint pain in the past.

DISCUSSION BASED ON THE OBJECTIVES

The first objective of the study was to assess the pre-test and post-test level of knee joint pain.

Table 2 shows that in the experimental group, among pre-test level of knee joint pain majority 14 (46.7%) had severe pain 12(40%) had moderate pain and 2(6.7%) had mild pain majority 15(50) had only mild pain, 8(26.7%) had moderate, 2 (6.7%) had severe pain, 5(16.7%)had no pain.

Table 3 shows that in the control group 14(46.7%)had severe pain, 12(40%) had moderate pain.

The discussion was based on the objectives, the review of literature and null hypothesis specified in this study, the frequency and percentage distribution of demographic variables of experimental group. Hence, the result hypothesis (H1) stated that there is a significant difference in the level of knee joint pain among study group and control group was accepted.

The second objective of the study was to determine the effectiveness homemade herbal plaster application on knee joint pain among experimental group.

Table 4 shows comparison pre-test and post-test level of knee joint pain among study participants in experimental group. Pre-test median was 50.00 with sum of 148.000 the post-test median was 21.000 with sum of 685.000 the calculated paired t value is 2.000 was found to be statistically significant at $P < 0.01$ with clearly shows the significant reduction of knee joint pain among the study participants of experimental group.

Table 5 shows the comparison pre-test and post-test level of knee joint pain among study participants in control group. In pre-test median was 50.00 with sum of 148.000 the post-test median was 21.000 with sum of 685.000, the calculated paired t value is 2.000 was found to be statistically

significant at P < 0.01 with clearly shows the significance in reduction of knee joint pain among the study participants of control group as well

Table.6 shows Comparing % change from pre-test score to post-test score between experiment group and control group. In the experimental group pre post median was 57.046 with sum of 1580.433 and post-test median was 0.000 with sum of 178.587 .In the control group pre-test median was 45.0 with sum of 1289.0 and post-test median 13.0 with sum of 541.0,the calculated U value 824.000 was found to be statistically significant at P < 0.01. Hence, the percentage change from pre test score and post test score in experimental group is significantly greater than that in the control group which clearly shows that the treatment was really effective.

The findings were supported by the similar study by Jin-Tao Liu(2013) Golden plaster for pain therapy in patients with knee osteoarthritis: study protocol for a multicenter randomized, double-blind, placebo-controlled trial. A total of 320 participants aged 45 to 79 years with knee osteoarthritis, whose scores on a visual analog scale (VAS) are more than 20 mm, will be randomly allocated into a treatment group and a control group. A golden plaster will be administered externally to participants in the treatment group for 2 weeks, while the control group will receive a placebo plaster externally for 2 weeks. Follow-up will be at regular intervals during a 4-week period with a VAS score for pain, quality of life, and complications. This study will be a methodologically sound randomized controlled trial to assess pain relief after the intervention of golden plaster, compared to a placebo intervention in patients with knee osteoarthritis. Hence the research hypothesis (H2), stated that there is a significant difference in the level of knee joint pain after the homemade application of herbal plaster application in experimental group was accepted

The third objectives of the study were to compare the post-test level of knee joint pain between the experimental group and study.

Table 7 shows comparison post intervention level of joint pain between experimental and control group .The experimental group Post-test mean score was 22.833 with S.D 1 4 and control group post-test mean score was 44.100 with S.D 17.674. The calculated t value-5.052 was found to be statistically significant at $P < 0.01$ level which clearly shows post test scores of experimental groups significantly lower than the control group.

The above findings were supported by Kun-Oak-Lim (2013), study set out to investigate the effects of leg immersion in warm water on pain, and stiffness of patients with stroke-induced chronic osteoarthritis. [Subjects] Forty-four patients with chronic stroke were randomly assigned to either the whirlpool group (n=24) or the control group (n=20). [Methods] Subjects in the whirlpool group immersed their legs in a whirlpool bath at 40 °C for 40 minutes 5 times a week for 8 weeks. The control group of patients was instructed to perform activities as usual without using a whirlpool bath. Pre-immersion and post-immersion measurements of the Western Ontario and McMaster University arthritis index (WOMAC)-pain and stiffness indexes were compared to determine the effects of the intervention. The paired t-test was performed to test the significance of differences before and after the experiment. The independent t-test was conducted to test the significance of differences between the whirlpool and control groups. Statistical significance was accepted for values of $p<0.05$. [Results] The WOMAC-pain score and stiffness index were significantly in experimental group than control group. After the intervention. . Therefore research hypothesis (H3) states that there is a significant difference in the level of knee joint pain between experimental and control group after homemade herbal plaster application was accepted .

The fourth objectives of the study were to associate knee joint pain with demographic variables

The above table 8 denotes that the demographic variable like gender (female) and the family history of knee joint pain has significant association at $p<0.05$ with the posttest level of joint pain in the experimental group. Other demographic variables had not shown any statistical significant association with post-test level of knee joint pain in the experimental group**.**

The above findings supported by the study conducted by Ershela L.Sims (2002) Knee joint pain and arthritis is seen more frequently in females than males. This study examines the influence of anthropometrics, radiographic disease, severity, pain and disability on gender difference in gait mechanics in patients with knee pain. Gait mechanics for 26 men and 30 women were collected using 3-D kinematics and kinetics. Women had a significantly lower knee adduction moment than men, and significantly higher stride frequency. Within female subjects, variations in gait mechanics were primarily explained by weight, BMI, pain and disability. In males, variations in gait mechanics were primarily explained by age and disability

Lauren Clarks (2009) says that the researchers at the medical college of Georgia at Augusta University have found the reason for the gender difference is in the fluid the knee holds. The synovial fluid is there to help protect the cartilage which provides padding between our bones. They discovered there are differences between males and females in the messages cells are sending and receiving within the fluid. Researchers discovered gender difference in exosome content. They believe these are due to estrogen levels changing in women. Lower estrogen levels, like those that occur following menopause, trigger production of more cells that destroy bone .Henceforth the research hypothesis (H4) There is a significant association between knee joint pain with selected demographic variables was accepted.

CHAPTER - VI

SUMMARY, FINDINGS, IMPLICATIONS, RECOMMENDATIONS AND CONCLUSION

This study was aimed to assess the effectiveness homemade herbal plaster application on knee joint pain among elderly in selected old age homes. The conceptual framework selected for this study based upon the **TRAVIS Illness Wellness continuum model 2001.** Convenience sampling techniques was used in selecting samples.

WOMAC index with the help of numeric rating scale was used to assess the level of knee joint pain among the elderly, the homemade herbal plaster application was given for the experimental group. The post test data was analyzed using differential and inferential statistics the data analyzed showed that experimental group shows significant reduction of knee joint pain than the control group.

IMPLICATIONS

The implication of the study have practical application in the field of nursing the implications of the study would be discussed in four areas namely; The nursing practice, nursing administration, nursing education, nursing research.

Implications for Nursing practice

To find of the study will help nurses in the following ways;

1. To develop their knowledge attitude and skills regarding, managing joint pain in older age groups

2. Nursing personnel are easily reachable to the public so that they can practice home remedy like homemade herbal plaster on managing knee joint pain.

3. Conducted awareness program regarding how to manage pain by home remedy to all nursing and paramedical workers because it is common in old age groups.

Implication for nursing education:

1. The study has clearly proved that the Homemade herbal plaster application on knee joint pain.

2. To practice this, the nursing personnel need to be equipped with adequate knowledge regarding in alternative therapies and home remedy like homemade herbal plaster application on knee joint pain of osteoarthritis.

3. Management of joint pain in geriatric population including alternative therapies and home remedies like homemade herbal plaster application on knee joint pain should be included in nursing curriculum which was useful to nursing personnel to educate osteoarthritis clients.

4. In service education program, staff development program can be conducted regarding alternative therapies and home remedy on joint pain management for the staff nurses and nursing students.

Implication for nursing research:

1. Research was a never-ending process of acquiring knowledge that may enhance a result on its completion. Nurses need to attend more conferences to acquire inquisitive knowledge.

2. This research study can serve as stepping stone for all the various other studies in the future.

3. Nursing researcher can encourage clinical nurse to apply the research findings in their daily nursing care activities and can bring about new techniques.

4. Dissemination of findings through conference, professional journals will make the application of research findings too effective on Evidence Based Practice.

5. This study also brings about the fact that more studies needed to be conducted by comparing the different types of alternative therapies exercises and home remedy like mustard oil and mustard paste.

6. Extensive research must be conducted in the area of osteoarthritis pain management to identify the practice and management.

Implication for Nursing administration:

1. The administrator should give permission to do the various experimental studies to find out the efficacy.

2. The staff should be provided to attend the various In-service education programs and Staff development program.

3. Pamphlets, video and live demonstration regarding alternative therapies and home remedy such as application of herbal plaster application, mustard oil should be exhibited to all clients especially above 60 years.

RECOMMENDATIONS

1. The investigator recommends the following suggestions for further research.
2. Similar study can be done by alternative therapies such as exercise, yoga, acupuncture, acupressure and home remedies.
3. Similar study can be conducted in, government and private hospitals, urban and rural area.
4. Similar study can be conducted with large samples.
5. Quasi experimental study can be conducted to assess the effectiveness of any two home remedy on joint pain of geriatric population

CONCLUSION

They study concludes that the homemade herbal plaster application had significant in reducing the level of knee joint pain among elderly (above 60 years) in selected old age homes with the outcome of reduction of level of knee joint pain, increased functional ability in performing activities of daily living and better quality of life among senior citizens .

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RESEARCH QUESTIONNAIRE

PART A - DEMOGRAPHIC VARIABLES

Instructions:

The following items seek information about you. Kindly choose appropriate one. The data will be kept confidentially.

DATA COLLECTION TOOL

PART I DEMOGRAPHIC DATA

1. Age in years
    1. 60-64
    2. 65-69
    3. 70-74
    4. 74-79
2. Gender:
    1. Male
    2. Female
3. Area where you resided
    1. Urban
    2. Rural
4. Nature of work
    1. Heavy
    2. Moderate
    3. Sedentary

5. What is your Body Mass Index (BMI)? Height _____ Cm Weight _____

$$BMI = \frac{\text{Mass (Kg)}}{(\text{Height (m)})^2}$$

1. Under weight (< 18.5)
2. Normal weight (18.5 – 25)
3. Over weight (25-30)
4. Obese (> 30)

6. Dietary Pattern

1. Vegetarian
2. Non-Vegetarian

7. Do you have the habit of doing any form of exercise?

1. Yes
2. No

8. Family history of knee joint pain

1. Yes
2. No

9. Did you take any medical treatment for your knee joint in the past

1. Yes
2. No

PART B - ADAPATED WOMAC INDEX QUESTIONNAIRE

Questions	None 0	Mild 1	Moderate 2	Severe 3	Extreme 4
PAIN					
How much pain have you had					
1. When walking on flat surface?					
2. When going up or down stairs?					
3. At night while in the bed?					
4. While sitting are lying down?					
5. While standing?					
6. When bending knee fully?					
7. When straightening knee fully?					
DIFFICULTIES IN PERFORMING DAILY ACTIVITIES					
How much difficulty have you had					
8. When going up the stairs?					
9. When going down the stairs?					
10. When getting up from a sitting position?					
11. While standing?					
12. When bending to the floor?					
13. When walking on a flat surface?					
14. Getting in or out of the car or getting on or off of the bus?					
15. While going shopping?					
16. When putting sock/stockings?					
17. While rising from bed					
18. While taking off socks /stockings?					
19. While lying on a bed?					
20. When getting in or out of the bath tub?					
21. While sitting?					
22. While sitting on or off of the toilet?					
23. While doing heavy house work?					
24. While doing light house work?					

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    2. B@µõUQ¯©õÚ G ø h (18.5 & 25)
    3. A vP©õÚ G ø h (25 & 30)
    4. EhÀ £¸©ß (› 30)

6. E n Ä £ÇUP®
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HOMEMADE HERBAL PLASTER APPLICATION PROCEDURE

* INGREDIENTS

* **Dry mustard powder-2 tablespoon**
* **Dry basil leaf powder-1 tablespoon**
* Wheat **flour -4 tablespoon**
* Luke **warm water**

* PROCEDURE

The plaster is prepared by mixing two table spoon of dry mustard powder, 1 table spoon of dry basil powder with four table spoon of wheat flour mixing with luke warm water.

The paste is then spread over the clean cotton cloth and edges of the cloth are folded in wards to form the plaster, plaster is then applied to the painful joint and hot water bag (110-degree F) is provided on top for 20 minutes.

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the tool developed by MRS.S. RAJESWARI, II year M. Sc., (Nursing) student of Mohamed Sathak A J College of Nursing on **"A STUDY TO ASSESS THE EFFECTIVENESS OF HOME MADE HERBAL PLASTER APPLICATION ON KNEE JOINT PAIN AMONG ELDERLY (ABOVE 60 YEARS) IN SELECTED OLD AGE HOMES, CHENNAI".** is validated by the undersigned and can proceed with this tool to conduct the study.

SIGNATURE:

PLACE: Chennai

NAME:

DATE: 8.6.2016

DESIGNATION:

Dr.K.V.Jayaprakash M.S.Ortho
Consultant Orthopaedic Surgeon
Reg.No.62385

COLLEGE SEAL:

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the tool developed by MRS.S. RAJESWARI, II year M. Sc., (Nursing) student of Mohamed Sathak A J College of Nursing on **"A STUDY TO ASSESS THE EFFECTIVENESS OF HOME MADE HERBAL PLASTER APPLICATION ON KNEE JOINT PAIN AMONG ELDERLY (ABOVE 60 YEARS) IN SELECTED OLD AGE HOMES, CHENNAI".** is validated by the undersigned and can proceed with this tool to conduct the study.

SIGNATURE:

NAME: A.RATHIGA

DESIGNATION: PROFESSOR

H.O.D.,MEDICAL SURGICAL NURSING

PLACE: CHENNAI

DATE: 9.6.2016

COLLEGE SEAL:

CHETTINAD COLLEGE OF NURSING
KELAMBAKKAM
603103

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the tool developed by MRS.S. RAJESWARI, II year M. Sc., (Nursing) student of Mohamed Sathak A J College of Nursing on **"A STUDY TO ASSESS THE EFFECTIVENESS OF HOME MADE HERBAL PLASTER APPLICATION ON KNEE JOINT PAIN AMONG ELDERLY (ABOVE 60 YEARS) IN SELECTED OLD AGE HOMES, CHENNAI".** is validated by the undersigned and can proceed with this tool to conduct the study.

Incorporate the corrections made.

SIGNATURE: Prathiba

NAME: PRATHIBA SIVAKUMAR

DESIGNATION: ASSOCIATE PROFESSOR

PLACE: Chennai

DATE: 10.6.2016

COLLEGE SEAL:

HOD Medical Surgical Nursing
Venkateswara Nursing College
Thalambur, Chennai-600 130

Rejuvenate Life with SAH

Sanjeevi's Ayush Hospital

சஞ்சீவிஸ் ஆயுஷ் மருத்துவமனை

A Unit of Hospitality by Ayurvedha Yoga Unani Siddha & Homeopathy System of Medicine

℞

Dr. M. D. Vijayaragavan, M.S (Ayu).,

This is to state that Mrs.Rajeswari had to conduct a research on "A STUDY TO ASSESS THE EFFECTIVNESS OF HOMEMADE HERBAL PLASTER APPLICATION ON KNEE JOINT PAIN AMONG ELDERLY (above 60 years) IN SELECTED OLD AGE HOMES, CHENNAI" and the plaster is prepared by mixing two table spoon of dry mustard powder, 1 table spoon of dry basil powder with four table spoon of wheat flour mixing with luke warm water. The paste is then spread over the clean cotton cloth and edges of the cloth are folded in wards to form the plaster, plaster is then applied to the painful joint and hot water bag (110 degree F) is provided on top for 20 minutes .There is no adverse effects expected on application of homemade herbal plaster.

Sanjeevi's Ayush Hospital Date: 10.6.16 WEST TAMBARAM, CHENNAI-45

Dr. M.D. VIJAYARAGAVAN, M.S.,(Ayr)
Regn. No : AA26962
New No : 0244

Sanjeevi's Ayush Hospital
No.50,Kamaraj Street,
West Tambaram, Chennai-45.
Mob.No:9345450404, 7667772770

CERTIFICATE FOR ENGLISH EDITING

TO WHOMEVER IT MAY CONCERN

This is to certify that the dissertation titled "A Study to Assess the Effectiveness of Homemade Herbal Plaster Application On Knee Joint Pain Among Elderly(above 60 years) in Selected Old age Homes, Chennai" prepared by Mrs.S.Rajeswari ,M.Sc Nursing student (2015-2017)of Mohammed sathak A.J college of Nursing ,Chennai has been edited for English language appropriateness by D. Meenakshi

Signature with Date: Meenakshi

Seal:

D.MEENAKSHI
MA., M.Ed
St.Britto Matriculation
Hr. Sec. School
Chennai - 88

CERTIFICATE FOR TAMIL EDITING

TO WHOMEVER IT MAY CONCERN

This is to certify that the dissertation titled "A Study to Assess the Effectiveness of Homemade Herbal Plaster Application On Knee Joint Pain Among Elderly(above 60 years) in Selected Old age Homes, Chennai" prepared by Mrs.S.Rajeswari ,M.Sc Nursing student (2015-2017)of Mohammed sathak A.J college of Nursing ,Chennai has been edited for Tamil language appropriateness by .....N. Josphine

Signature with Date: Josephine. 7

Seal:

பதிவு எண் : 940/2015

AMMA - APPA OLDAGE CARE

அம்மா - அப்பா முதியோர் இல்லம்

(அறக்கட்டளை)

தெ.1/14, கொம்மியம்மன் நகர், (Sacred Heart School) முடிச்சூர்,
சென்னை – 600 048. செல் : 9840280343 / 9677009907

நாள் :

To

Mrs. S.Rajeswari

M, Sc., Nursing 2 nd year

Mohammed Sathak A.J .College of Nursing

NO: 32, Rajiv Gandhi Road (OMR)

IT highway, Siriuseri

Chennai -603103

Sub: Pilot &project study from 13 .6.16 to 18.6.16 and from 21.11.16 to 31.12.16-reg

Dear Madam,

Greetings from AMMA-APPA old age care,

We are thankful Mrs.Rajeswari for conducted "A study to assess the effectiveness of homemade herbal plaster application on knee joint pain among elderly (above 60 years) in selected old age homes, Chennai". The project carried out in our home was really useful and satisfying for our home inmates. Thanks for your kindness and the favor. We wish you all the success in your further studies

Thanking You

Gratefully,

Mrs.Soundaravalli

AMMA APPA OLD AGE CARE CHE... Regd. No: 940/2015

பதிவு எண் : 940/2015

AMMA - APPA OLDAGE CARE

அம்மா - அப்பா முதியோர் இல்லம்

(அறக்கட்டளை)

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சென்னை - 600 048. செல் : 9840280343 / 9677009907

நாள் :

TO

The principal

Mohammed Sathak A.J .College of Nursing

NO: 32, Rajiv Gandhi Road (OMR)

IT highway, Siriuseri

Chennai -603103

Dear sir/Madam,

Greetings from AMMA –APPA Old age Care,

Received your letter seeking permission for a 2nd year M, SC Nursing student who would like to visit our home on 13 .6.16 to 18.6.16 and from 21.11.16 to 31.12.16 for a research project .It is our pleasure to accord and give permission to the student of your nursing college .

I really value your concern for the poor and homeless. I feel very happy that there are lovable people to support us not only financially but also rendering their services to society."SERVICE TO SUFFERING HUMANITY IS SERVICE TO GOD" .Spread our services to many friends, well wishers, relatives and others.

MAY GOD BLESS YOU AND YOUR FAMILY

We look forward to your constant support in our welfare projects.

Respectfully,

Mrs.Soundaravalli

NAVAJEEVAN FREE OLD AGE HOME

4/7, VIVEKANANDA STREET, PERUNGALATHUR R.S.
SRINIVASA NAGAR, CHENNAI – 600 063.
(Run by Navajeevan Trust, Tiruchanoor, Tirupathi – 517 503)

TO

The principal

Mohammed Sathak A.J .College of Nursing

NO: 32, Rajiv Gandhi Road (OMR)

IT highway, Siriuseri

Chennai -603103

Dear Madam,

Greetings,

It is our pleasure to permit Mrs.S.Rajeswari, 2nd year M, SC Nursing student of your college to carry out a research project in our home .The study titled as "A STUDY TO ASSESS THE EFFECTIVENESS OF HOMEMADE HERBAL PLASTER APPLICATION ON KNEE JOINT PAIN AMONG ELDERLY (ABOVE 60 YEARS) IN SELECTED OLD AGE HOMES, CHENNAI" .We wish all the very best for her research work.

Regards,

BRANCH MANAGER
NAVAJEEVAN FREE OLD AGE HOME
4/7, VIVEKANANDA STREET
SRINIVASA NAGAR
PERUNGALATHUR, CHENNAI - 600 06
Phone No: 044-22743788

Mr.Natarajan


பதிவு எண்:
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அம்மா - அப்பா முதியோர் இல்லம்
(அறக்கட்டளை)